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Editorial Note

National Center for Education Statistics

The National Center for Education Statistics (NCES) fulfills a congressional mandate to collect and report "statistics and information showing the condition and progress of education in the United States and other nations in order to promote and accelerate the improvement of American education."

Education Statistics Quarterly

Purpose and goals

At NCES, we are convinced that good data lead to good decisions about education. The *Education Statistics Quarterly* is part of an overall effort to make reliable data more accessible. Goals include providing a quick way to

- identify information of interest;
- review key facts, figures, and summary information; and
- obtain references to detailed data and analyses.

Content

The *Quarterly* gives a comprehensive overview of work done across all parts of NCES. Each issue includes short publications, summaries, and descriptions that cover all NCES publications and data products released during a 3-month period. To further stimulate ideas and discussion, each issue also incorporates

- a message from NCES on an important and timely subject in education statistics; and
- a featured topic of enduring importance with invited commentary.

All NCES publications appearing in volume 1 (issues 1 through 4) of the *Quarterly* are indexed at the end of this issue. Publications in the *Quarterly* have been technically reviewed for content and statistical accuracy.

General note about the data and interpretations

Many NCES publications present data that are based on representative samples and thus are subject to sampling variability. In these cases, tests for statistical significance take both the study design and the number of comparisons into account. NCES publications only discuss differences that are significant at the 95 percent confidence level or higher. Because of variations in study design, differences of roughly the same magnitude can be statistically significant in some cases but not in others. In addition, results from surveys are subject to nonsampling errors. In the design, conduct, and data processing of NCES surveys, efforts are made to minimize the effects of nonsampling errors, such as item nonresponse, measurement error, data processing error, and other systematic error.

For complete technical details about data and methodology, including sample sizes, response rates, and other indicators of survey quality, we encourage readers to examine the detailed reports referenced in each article.

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Note From NCES

Peggy G. Carr, Associate Commissioner, Assessment Division

Assessing the Achievement of All Students

As our founding fathers affirmed, the well-being of America's constitutional democracy depends on an informed body of citizens who productively participate in civic affairs. However, recent research suggests that young adults have little interest in politics or activism and that their knowledge of basic civics needs improvement. Accordingly, the National Assessment of Educational Progress (NAEP) has sought to answer the following question: *How well are American youth being prepared to meet their citizenship responsibilities?*

This issue of the *Quarterly* features the *NAEP 1998 Civics Report Card for the Nation*, which addresses the state of civic education in this country. Students in grades 4, 8, and 12 were assessed on their ability to demonstrate the *intellectual skills* and *participatory skills* that enable citizens to respond to the challenges of life in a constitutional democracy. They were also assessed on *civic dispositions*, which involve an understanding of such beliefs as the rights and responsibilities of individuals in society. As you will see in the NAEP civics article, the results provide insight into the lack of understanding and applied civic knowledge on the part of students in American schools today.

What will *not* be evident in this *Quarterly* article is the significant contribution that the NAEP 1998 Civics Assessment has made toward minimizing barriers to including and reporting on special-needs students in large-scale surveys. Including all students in appropriate instruction and state and districtwide assessment programs has become an important issue in recent years. Prior to implementation of the Education for All Handicapped Children Act (EAHCA) in 1975, children with disabilities were not provided an equal opportunity to participate in our nation's education system. Many students with disabilities were excluded from the general curriculum, that is, the same curriculum as for nondisabled students, and the assessments available to their nondisabled classmates were not provided for these students. In 1990, the EAHCA was renamed the Individuals with Disabilities Education Act (IDEA). The IDEA Amendments of 1997 (IDEA '97) focus on improving teaching, learning, and educational results for students with disabilities. IDEA '97 makes clear that students with disabilities must be included in general state and districtwide assessment programs, performance goals and indicators are to be developed for these students, and the performance of students with disabilities is to be included in reports to the public. For many students, participation in assessments could not occur without providing appropriate accommodations or modifications in test administration, which must be individually determined based on the needs of each disabled student. Such accommodations are necessary for many disabled students to participate in assessments such as NAEP.

In 1996, prior to IDEA '97, NAEP began to focus on criteria that facilitate inclusion rather than exclusion when there is doubt. NAEP makes every effort to ensure that all selected students, including students with disabilities and those with limited-English-proficiency, are assessed. The 1998 assessments in civics and writing mark the first time that the results of students tested with accommodations were included in the overall NAEP assessment results. This approach contrasts with that of earlier NAEP surveys, where data for these students were not included in the reported results. Accommodations and reporting of results for most of these students are the first steps toward total inclusion of those who can meaningfully participate. NAEP will continue to seek methods to appropriately accommodate as many students as possible while ensuring the psychometric validity of their scores. This goal is aligned with the fundamental mission of NCES, to "collect such statistics and facts as shall show the condition and progress of education . . ."

As Associate Commissioner for Assessment, I will continue to support such critical efforts as inclusion to ensure that NAEP is truly a national monitor of achievement for *all* students. Within this context, methodologies will be developed to ensure validity of assessments, comparability over time, and comparability across states at differing stages of IDEA implementation. Through assessments such as the NAEP 1998 Civics Assessment, I intend to advance NAEP's leadership role not only in monitoring students' progress in academic achievement, but also in pioneering education assessment methodology. For more information on NAEP research and development work on issues of inclusion and for an upcoming special report on inclusion in reading and mathematics, visit the NAEP Home Page at *http://nces.ed.gov/nationsreportcard*

Featured Topic: Civics Achievement

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Civics Report Card

NAEP 1998 Civics Report Card for the Nation

Anthony D. Lutkus, Andrew R. Weiss, Jay R. Campbell, John Mazzeo, and Stephen Lazer

This article was originally published as the* NAEP 1998 Civics Report Card Highlights. *Some of the tables and sections from the* Highlights *have been omitted. The sample survey data are from the National Assessment of Educational Progress (NAEP) 1998 Civics Assessment.

The strength of America's constitutional democracy comes largely from the informed, active participation of its citizens, whether voting in an election, spending time on jury duty, volunteering for community service, or simply keeping aware of current affairs. Will the next generation of citizens—today's students—have the knowledge, skills, and interest to fulfill their civic responsibilities? The National Assessment of Educational Progress (NAEP), the nation's only ongoing survey of what American students know and can do in various academic subjects, is one resource that can help answer this question.

NAEP is administered by the National Center for Education Statistics (NCES) with policy oversight by the National Assessment Governing Board (NAGB). In 1998, NAEP administered a civics assessment to a national sample representative of all students at grades 4, 8, and 12. The results of the assessment provide information about students' civic knowledge, skills, and interests.

This article presents highlights from the NAEP 1998 Civics Assessment, describing its content and major findings, as well as students' experiences at home and school that are associated with achievement in the study of civics. Student performance is reported as an average score based on the NAEP civics scale, which ranges from 0 to 300. The average scale score reflects the overall civics performance of a particular group of students. Student civics performance is also reported in terms of three achievement levels: *Basic*, *Proficient*, and *Advanced*. The achievement levels are performance standards adopted by NAGB as part of its statutory responsibilities. The levels are collective judgments of what students should know and be able to do for each grade tested. They are based on recommendations by broadly representative panels of classroom teachers, education specialists, and members of the general public.

As provided by law, the Acting Commissioner of Education Statistics, upon review of a congressionally mandated evaluation of NAEP, has determined that the achievement levels are to be considered developmental and should be interpreted and used with caution. However, both the Acting Commissioner and NAGB believe these performance standards are useful for understanding trends in student achievement. They have been widely used by national and state officials, including the National Education Goals Panel, as a common yardstick of academic performance.

The NAEP 1998 Civics Assessment

Framework for the civics assessment

The guidelines used to develop the NAEP 1998 Civics Assessment were established in the *Civics Framework for the 1998 National Assessment of Educational Progress* (NAGB 1996). The framework, published by NAGB, was developed through a national consensus-building process that gathered input from a variety of citizens. Educators, assessment experts, scholars, public officials, businesspeople, and other laypeople, including students, all participated in this process.

The civics framework focuses on three interrelated components: knowledge, intellectual and participatory skills, and civic dispositions. Together, these components make up the essential elements of civic education in America.

What civic knowledge should students be able to demonstrate? According to the framework, the civic knowledge that students should be able to demonstrate can be found in five fundamental areas:

- civic life, politics, and government;
- foundations of the American political system;
- how the government established by the Constitution represents the purposes, values, and principles of American democracy;
- the relationship of the United States to other nations and to world affairs; and
- the roles of citizens in American democracy.

What civic skills should students be able to demonstrate? Students should be able to demonstrate the skills that enable citizens to use their civic knowledge to respond to the challenges of life in a constitutional democracy. *Intellectual skills* help citizens identify, describe, explain, and analyze information and allow them to evaluate, take, and defend positions on public issues. *Participatory skills* enable citizens to monitor and influence civic life by working with others, expressing ideas, and managing conflict.

What are civic dispositions? Civic dispositions are those ideals held by citizens, such as belief in the rights and responsibilities of individuals in society and in the advancement of the ideals of the government. These "dispositions" underlie participation in civic affairs, such as elections or community service, and the assumption of personal, political, and economic responsibilities.

Content of the civics assessment

The 1998 civics assessment contained a combination of multiple-choice questions and constructed-response (or open-ended) questions. Each student participating in the assessment received two 25-minute sections of questions.

Most civics questions measured both knowledge and intellectual skills. In addition, some questions also measured participatory skills and/or civic dispositions. In order to ensure that the civics assessment conformed closely to the framework, a special committee of civics teachers and other educators reviewed each question being considered for use in the assessment.

The assessment included questions that test the civic knowledge areas outlined in the framework. At grade 4, about one-quarter of the questions focused on civic life, politics, and government, while at grades 8 and 12, there was more emphasis on the Constitution. At all three grades, at least a quarter of the assessment's questions dealt with the roles of citizens in American democracy.

Sample Questions and Student Responses

The following sample questions and student responses from the NAEP 1998 Civics Assessment exemplify student performance within each of the three achievement-level ranges: *Basic, Proficient*, and *Advanced*. One sample question for each achievement level is presented for each of the three grades assessed.[1]

Grade 4 sample questions and responses

The following constructed-response question was designed to measure students' ability to tell the difference between power and authority. Although the first part of the sample response was not credited because its meaning was unclear, both reasons the student gave for being a police officer were credited. This response received a score of 3 ("Acceptable") on a 4-point scale and represents the *Basic* level at grade 4. The responses of 71 percent of fourth-graders at the *Basic* level and 67 percent of all fourth-graders were rated as "Acceptable" or better.

[1]Over 100 questions from the 1998 civics assessment are available for viewing at *http://nces.ed.gov/nationsreportcard/itmrls/intro.shtml*

Grade 4 *Basic* level: Sample question and response

Scott wants to be a police officer when he grows up. He says the police get to wear fancy uniforms with badges, use handcuffs, and drive cars as fast as they want. What is wrong with Scott's ideas about why he wants to be a police officer?

He Thinks he gets To be big and powerful because he gets To brake The rules of oThers.

Think about the things police officers do in their work. What are two good reasons to be a police officer?

1) You discipline people so They can learn from Their misTakes.
2) Make peace beTween people ThaT are fighTing and fix The problem.

The following multiple-choice question measured students' understanding of international trade. While reasons A, C, and D may result when the United States trades with other countries, reason B is clearly the most important. Fourth-graders at the *Proficient* level were likely to choose the correct response. Thus, 70 percent of fourth-graders at the *Proficient* level answered this question correctly, compared with 49 percent of all fourth-graders.

Grade 4 *Proficient* level: Sample question

11. Which of the following is the most important reason why the United States trades with other countries?

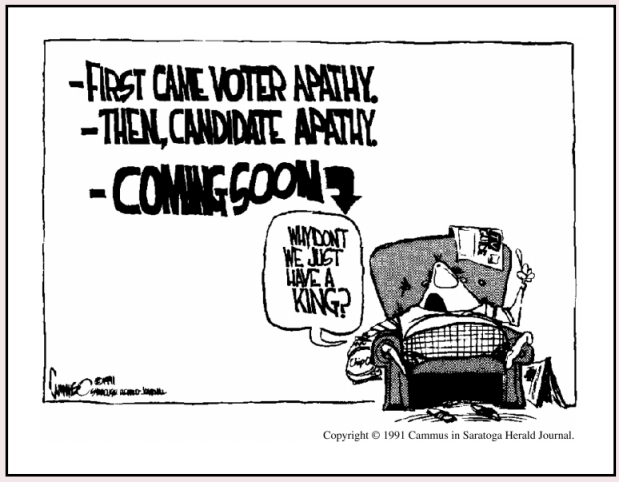
(A) People get a chance to travel.
➜ (B) It helps people get the things they need.
(C) It helps us learn about other cultures.
(D) We can learn other languages.

The following fourth-grade question required students to interpret a cartoon about the importance of civic participation to democracy. Answering this question correctly requires students to both understand a political cartoon—a difficult task for young students—and respond to a question about a sophisticated concept. Fourth-graders at the *Advanced* level were likely to choose the correct response.

Among all fourth-grade students, 26 percent answered the question correctly.

Grade 4 *Advanced* level: Sample question

The following question refers to the cartoon below. The word *apathy* in the cartoon means "not caring."



What is the message of the cartoon?

➜ (A) Democracy could be in danger if people do not vote.
(B) People like to get all of their political ideas from television.
(C) People do not care whether they have the right to freedom of speech.
(D) It is hard to be a candidate for President.

Grade 8 sample questions and responses

The following question falls within the civic knowledge category of the United States and its relationship to other countries and to world affairs. It was designed to measure students' understanding of what the United Nations can do to help resolve international conflicts. Eighth-graders who were at the *Basic* level were likely to choose the correct response; 84 percent of them did so. Seventy-seven percent of all eighth-grade students answered the question correctly.

Grade 8 *Basic* level: Sample question

Two countries both claim that an island in the Pacific Ocean belongs to them. The countries are preparing to go to war with each other over this issue.

What is the United Nations able to do to help end the conflict?

(A) Send weapons to both sides.

(B) Disarm the militaries of both countries.

➜ (C) Arrange for diplomatic negotiations between the two countries.

(D) Force all other countries to stop trading with the two countries.

The eighth-grade multiple-choice question shown below was part of a two-question set about the distribution and sharing of powers among the three branches of the federal government. It required students to demonstrate an understanding of conflicting views about the power of the Supreme Court. Eighth-grade students at the *Proficient* level were likely to choose the correct response. Among students at the *Proficient* level, 56 percent responded correctly, compared with 31 percent of all eighth-graders.

Grade 8 *Proficient* level: Sample question

This question refers to the passage below:

When two [people] come into [the Supreme] Court, one may say: "an act of Congress means this." The other may say it means the opposite. We [the Court] then say it means one of the two or something else in between. In that way we *are* making the law, aren't we?

—Earl Warren, Chief Justice of the Supreme Court

Some people are troubled by the role of the Court described by Chief Justice Warren. Which argument could they effectively use against it?

➜ (A) It is dangerous to give nonelected officials such as judges so much power in the government.

(B) The Supreme Court makes it too difficult for the federal government to exercise its power over the states.

(C) Supreme Court judges are the members of society most capable of making decisions about social policy.

(D) The main task of the Supreme Court is to rewrite the Constitution to respond to modern problems.

The following eighth-grade constructed-response question measured students' understanding of ways the United States Constitution limits the power of government. The sample response received a score of 3 ("Complete") on a 3-point scale because it provided two different and specific correct answers. This response represents the *Advanced* level at eighth grade. Only 13 percent of all eighth-graders received a rating of "Complete."

Grade 8 *Advanced* level: Sample question and response

Give two specific examples of how the United States Constitution limits the power of government.

1) Through separation of powers.

2) Through Judicial Review.

Grade 12 sample questions and responses

The following multiple-choice question, which measures civic knowledge about the foundations of the American political system, is the second of a two-question set based on a short statement. It deals with the idea that the Constitution upholds majority rule in certain key areas of decisionmaking, but limits the power of majorities in order to protect the rights of individuals. Twelfth-grade students at the *Basic* level were likely to choose the correct response. Seventy-eight percent of students at the *Basic* level and 72 percent of all 12th-graders answered correctly.

Grade 12 *Basic* level: Sample question

This question refers to the statement below:

The United States is not a fully democratic country. The framers of the Constitution created a system in which majorities—even large majorities or their representatives in Congress—do not have the right to do anything and everything they want.

The framers of the Constitution wanted to limit the power of majorities in order to

(A) encourage the growth of political parties

(B) ensure that state governments would remain weak

(C) enable the government to act quickly in times of crisis

➜ (D) protect the rights of individuals and minorities

The following constructed-response question was designed to measure 12th-graders' understanding of how the Constitution benefits American society by limiting the power of government. The response shown received a score of 3 ("Complete") on a 3-point scale because both parts mention aspects of America's constitutional system that are designed to prevent "absolute arbitrary power" and "governing without settled laws." It represents the *Proficient* level at 12th grade. Fifty-one percent of 12th-graders at the *Proficient* level, compared with 25 percent of all 12th-graders, received a rating of "Complete."

Grade 12 *Proficient* level: Sample question and response

This question refers to the passage below:

Absolute arbitrary power, or governing without settled laws, can neither of them be consistent with the ends of society and government.

—John Locke

List two ways the American system of government is designed to prevent "absolute arbitrary power" and "governing without settled laws."

1) The system of checks and balances prevents a certain branch of government from getting too powerful.
2) The amendment process allows laws to be added or altered to fit the best needs of citizens.

The following 12th-grade multiple-choice question was intended to measure students' understanding of the constitutional limits on the power of majorities, as well as students' ability to interpret a statement. In the assessment, this question was paired with a question that asked why the framers of the Constitution wanted to limit the power of majorities (that question is included in this article as the sample question for the grade 12 *Basic* level). Twelfth-grade students at the *Advanced* level were likely to choose the correct response to the following question. Among students at the *Advanced* level, 85 percent answered correctly, compared with 30 percent of all 12th-graders.

Grade 12 *Advanced* level: Sample question

This question refers to the statement below:

The United States is not a fully democratic country. The framers of the Constitution created a system in which majorities—even large majorities or their representatives in Congress—do not have the right to do anything and everything they want.

Which aspect of the American system of government shows one of the limits on the power of majorities discussed above?

(A) The ability of Congress to override presidential vetoes

➜ (B) The Supreme Court's power to overturn unconstitutional laws

(C) The right of Congress to impeach Presidents and federal judges

(D) The ability of people in many states to vote public initiatives into law

NAEP Civics Assessment Results for the Nation

As shown in table A, 23 percent of 4th-graders, 22 percent of 8th-graders, and 26 percent of 12th-graders were at or above *Proficient*—the level identified by NAGB as the standard all students should reach.

While table A shows the cumulative percentages of students "at or above" each achievement level, figure A shows the percentage of students who fell below the *Basic* achievement level and those *within* the *Basic*, *Proficient*, and *Advanced* levels.

Civics Performance for Selected Student Subgroups

The NAEP civics scores at each grade (4, 8, and 12) range from 0 to 300, with a national average of 150. These scores can be used to compare various subgroups of students.

Civics performance by gender

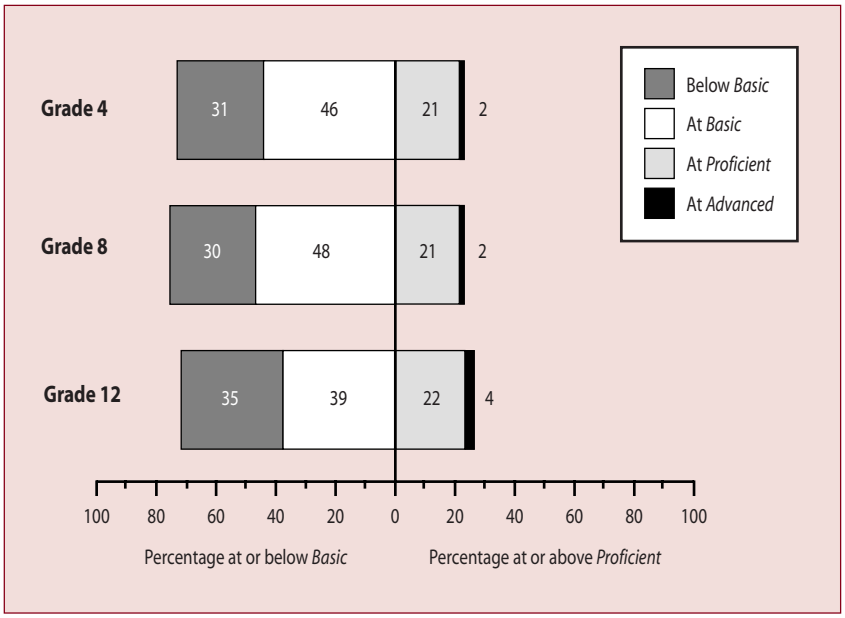
Females had higher average scores than males at grades 8 and 12, but not at grade 4. At all three grades, comparable

Table A.—Percentage of students at or above the civics achievement levels: 1998

	Nation			
	Below *Basic*	At or above *Basic*	At or above *Proficient*	*Advanced*
Grade 4	31	69	23	2
Grade 8	30	70	22	2
Grade 12	35	65	26	4

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP) 1998 Civics Assessment. (Previously published on p. 8 of the *NAEP 1998 Civics Report Card Highlights*.)

Figure A.—Percentage of students within each civics achievement-level range: 1998



NOTE: Percentages may not add up to 100, or to the exact percentages at or above achievement levels, due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP) 1998 Civics Assessment. (Previously published on p. 8 of the *NAEP 1998 Civics Report Card Highlights*.)

percentages of males and females reached or exceeded the *Proficient* level of civics achievement.

Civics performance by race/ethnicity

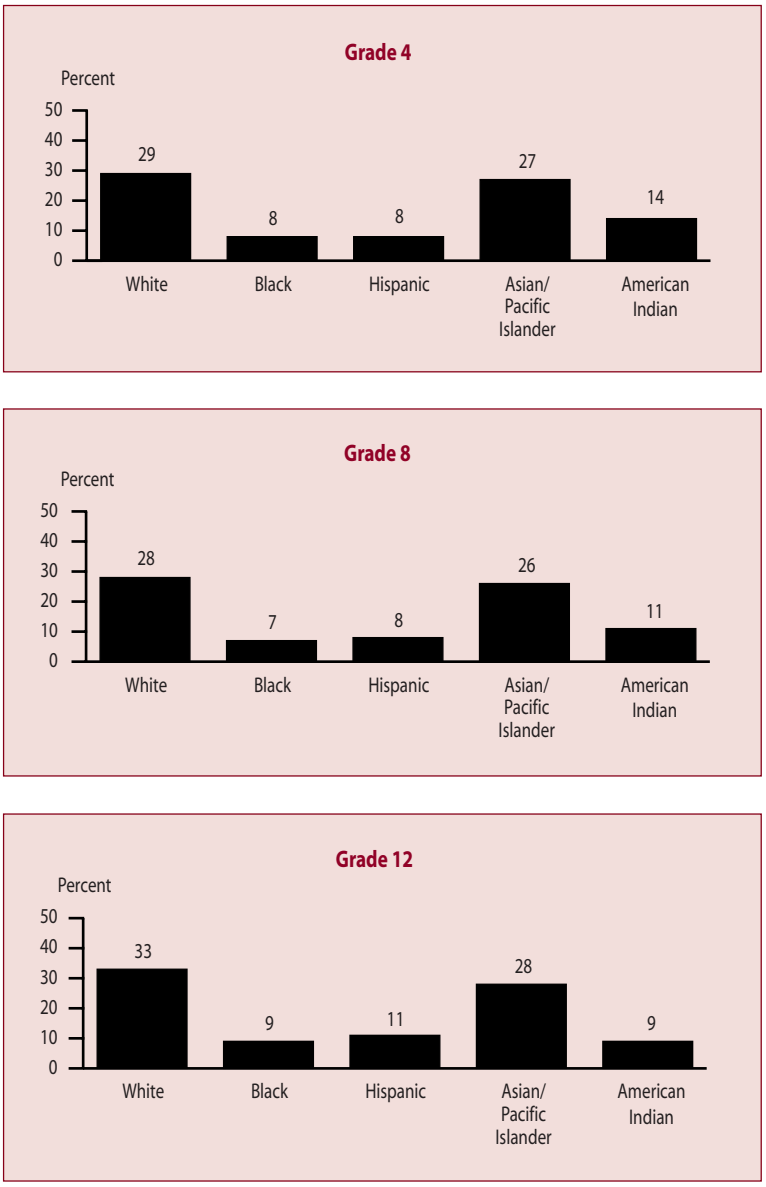
At grade 4, white students had higher scores than Asian/Pacific Islander students who, in turn, outscored black, Hispanic, and American Indian students. In addition, black and American Indian students scored higher, on average, than Hispanic students. At grade 8, white students scored higher, on average, than black, Hispanic, and American Indian students. Black students and Asian/Pacific Islander students also scored higher than their Hispanic peers. At grade 12, white and Asian/Pacific Islander students had higher scores than black, Hispanic, and American Indian students. At each grade, higher percentages of white students were at or above the *Proficient* level than black, Hispanic, or American Indian students (figure B).

Civics performance by type of school

At all three grades, students attending nonpublic schools had higher scores than students attending public schools. Differences between the performance of students in public and nonpublic schools may be due to factors such as admission standards and the likelihood of greater parental involvement at nonpublic schools.

At each grade, a higher percentage of nonpublic school students reached or exceeded the *Proficient* level than did public school students. Across the three grades, between 35 and 40 percent of nonpublic school students were at or

Figure B.—Percentage of students at or above the *Proficient* achievement level in civics, by race/ethnicity: 1998



SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP) 1998 Civics Assessment. (Previously published on p. 9 of the *NAEP 1998 Civics Report Card Highlights*.)

above the *Proficient* level of performance. In comparison, between 20 and 25 percent of public school students reached or exceeded this level within each grade.

School and Home Factors Related to Civics Achievement

What activities are related to students' achievement in civics? Are there aspects of students' environments at home, at school, or in the community that encourage or support the development of young citizens? NAEP collects information that may help researchers, educators, and parents answer these questions. For example, it may suggest approaches to help students become more active citizens and provide a resource for parents seeking to support their children's understanding of civics.

While it is possible to study the relationship between students' performance in civics and various other factors, it cannot be established that these factors cause a higher level of achievement in civics. The relationship that exists between civics achievement and another factor may, in fact, be caused by a complex interaction of numerous factors.

Discussing studies at home

Students who participated in the NAEP 1998 Civics Assessment were asked how often they discuss their school studies (in any subject) with someone at home. At all three grades, about two-thirds of students said they discussed their studies with someone at home at least once or twice a week. Those students who said that they did so "almost every day" or "once or twice a week" had higher civics scores than those who said they did so less frequently.

Use of the Internet in civics class

Is there a relationship between use of the Internet, a technology increasingly available in classrooms, and students' civics performance? Teachers of fourth- and eighth-grade students who participated in the assessment were asked how often their students accessed the Internet while in class.

As reported by their teachers, about one-quarter of fourth-graders and nearly one-half of eighth-graders used the Internet at least once or twice a month. At both grades, students who accessed the Internet in class once or twice a month had higher civics scores than those who never or hardly ever did so. Eighth-graders who used the Internet at least once a week also had higher civics scores than those students who never or hardly ever did so.

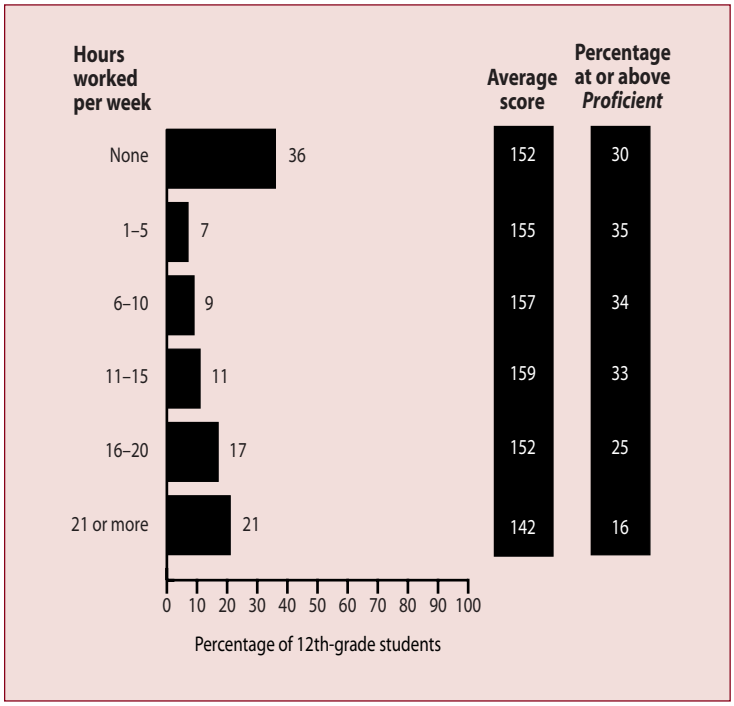
Student jobs

Many American high school seniors work at jobs for pay. Is there a relationship between the number of hours students work and their performance on the civics assessment? Twelfth-graders taking the assessment were asked how many hours per week they work at a job for pay. Almost two-thirds of the students reported that they work at a job for pay; approximately one-fifth reported working 21 hours or more per week (figure C). Students who reported working a moderate number of hours per week (6–15 hours) had higher scores than both the students who reported working more hours and the students who reported that they did not work at a job for pay.

Student volunteer work

In recent years, an increasing number of young people have been active in community service. Such service can be a key

Figure C.—Percentage of students, average civics scale scores, and percentage at or above *Proficient*, by hours per week working at a job for pay, grade 12: 1998



NOTE: Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP) 1998 Civics Assessment. (Previously published on p. 11 of the *NAEP 1998 Civics Report Card Highlights*.)

part of an individual's civic education. Consequently, 12th-grade students taking the 1998 civics assessment were asked whether they had volunteered for community service during the past year. More than half of the students said that they had done some volunteer work, either with their school or on their own (figure D). Although not shown by these percentages, some of these students may have done both types of volunteer work (each student could indicate only one type). Students who did volunteer work had higher average civics scores than students who said they had not done volunteer work in the past year.

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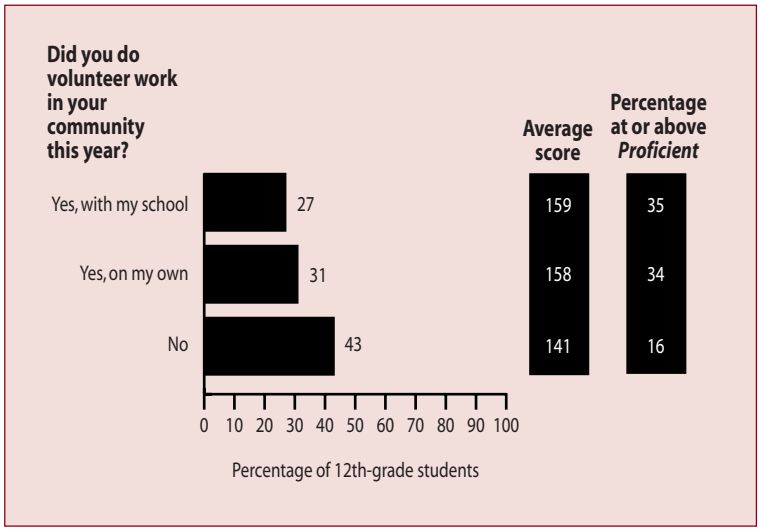
National Assessment Governing Board. (1996). *Civics Framework for the 1998 National Assessment of Educational Progress*. Washington, DC: Author.

Figure D.—Percentage of students, average civics scale scores, and percentage at or above *Proficient*, by volunteer work status, grade 12: 1998



NOTE: Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP) 1998 Civics Assessment. (Previously published on p. 11 of the *NAEP 1998 Civics Report Card Highlights*.)

Data source: The National Assessment of Educational Progress (NAEP) 1998 Civics Assessment.

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For additional details about NAEP 1998 methodology, see

Allen, N.L., Donoghue, J.R., and Schoeps, T.L. (forthcoming). *The NAEP 1998 Technical Report* (NCES 2000–463).

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For questions about content, contact Arnold A. Goldstein *(arnold_goldstein@ed.gov)*.

To obtain the complete report (NCES 2000–457), call the toll-free ED Pubs number (877–433–7827), visit the NCES Web Site *(http://nces.ed.gov)*, or contact GPO (202–512–1800).

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Improving Civic Education

Invited Commentary: The Need to Improve Education in Civics and Government

Charles N. Quigley, Executive Director, Center for Civic Education

This commentary represents the opinions of the author and does not necessarily reflect the views of the National Center for Education Statistics.

I would like to make the following four points in response to the findings of the National Assessment of Educational Progress (NAEP) 1998 Civics Assessment:

- The NAEP findings are grounds for concern. They call for action to remedy a serious deficiency in the education of American citizens.
- Failure of students to do well on the NAEP assessment is a direct consequence of the widespread lack of adequate curricular requirements, teacher preparation, and instruction in civics and government.
- Good programs in civics and government produce good results. They are the solution to the shortcomings identified in the NAEP results.
- There is a need for a national campaign to ensure that effective instruction in civics and government is provided to every student in every school in the nation.

Grounds for Concern About the NAEP Findings

The NAEP civics assessment found that only about 25 percent of U.S. 4th-, 8th-, and 12th-graders demonstrated proficiency in civics. These findings are not surprising. They are consistent with those of other studies of the knowledge of American youth about politics and government that have been conducted in recent years. Add to these findings the results of studies of the participation of our young people in the political life of their communities and nation and we have a picture of large numbers of our youth as being ill-informed about their government and not participating in it.

A recent study commissioned by the National Association of Secretaries of State (1999) found that in the last presidential election less than 20 percent of eligible voters between the ages of 18 and 25 bothered to vote. The same study revealed that 94 percent of our youth believe that "the most important thing I can do as a citizen is to help others." This is an admirable sentiment, but it is also a conception of the roles and responsibilities of citizenship that is totally inadequate in a nation that is supposed to have a government that is of the people, by the people, and for the people.

In response to the NAEP findings, the noted scholar R. Freeman Butts has commented, "I agree that the results are not too surprising, but in any event they are deplorable, worse than 'not satisfactory'. . . . the civics findings should trumpet a national alert [about a problem] that is even more disturbing than the weaknesses in other academic subjects. For our citizenship itself is at stake" (Butts 1999).

Inadequacy of Current Curricular Requirements, Teacher Preparation, and Instruction

One of the major reasons our students did not do well on the NAEP assessment is that the vast majority are either not being taught civics and government at all or are being taught too little, too late, and inadequately. Under these conditions, we can hardly expect them to do well on such a test. One major reason civics is not taught adequately is that most states and school districts do not have sufficient requirements for instruction in civics and government.

Suggested standards for developing policy on civic education

With the assistance of more than 150 of our colleagues in civic education, the Center for Civic Education has developed the following standards that we think should guide the development of policy on civic education in every state and school district in the nation (Center for Civic Education 1999):

- Education in civics and government should not be incidental to the schooling of American youth but should be treated as a central purpose of education essential to the well-being of American democracy.
- Civics and government should be considered a subject on a level with other subjects. Civics and government, like history and geography, constitute an integrative and interdisciplinary subject.
- Civics and government should be taught explicitly and systematically from kindergarten through 12th grade, either as separate units and courses or as readily identifiable parts of courses in other subjects.
- Effective instruction in civics and government should include attention to the content of the discipline as

well as to the essential skills, principles, and values required for full participation in and reasoned commitment to our democratic system.

We are not aware of any state or school district that meets these standards.

Shortcomings of state policies on civic education

To find out more about state policies and practices in civic education, the Center for Civic Education commissioned a study by the Lyndon B. Johnson School of Public Affairs (University of Texas at Austin 1999b). The findings of that study, briefly noted below, substantiate the shortcomings of public policy on civic education.

State constitutions. Thirteen states' constitutions explicitly affirm that an informed citizenry is a worthwhile goal by mandating public education or otherwise promoting education. However, no constitutional provisions specifically require instruction in citizenship, government, rights, or liberties.

State statutes. Twenty-six states have enacted state laws specifically related to civic education. These statutes are of four types (a few states have more than one type):

- statutes that require instruction in civics but do not require specific courses, standards, or assessments, leaving the details to regulatory authorities, school districts, or schools (11 states);
- statutes that require some form of civics assessment or the specification of civics content in state standards (5 states);
- statutes that require one or more specific courses in civics, government, constitutions, or related topics, often mandating not only the instruction topic but also the year and length of the course(s) (10 states); and
- statutes that relate to civic education but do not fit any of the other three categories (e.g., statutes that fund civic education curricula, authorize community service in schools, or require a state clearinghouse for information on character and citizenship education programs) (7 states).

State standards. States address civics topics in their state academic standards in one of three ways:

- by adopting separate civics standards (3 states);
- by including civics topics as an explicit section in social studies standards (23 states); and
- by integrating civics content into social studies standards (18 states, including the District of Columbia).

In spring 1999, 5 more states were planning to incorporate civics topics into their state standards; 1 state had no plans for standards with civics content; and 1 state had no plans for academic content standards in any subjects.

State requirements for high school civics/government courses. Twenty-nine states (including the District of Columbia) reported requiring that students complete one or more high school courses in civics/government. Only 5 of these states require a 12th-grade capstone course.

State assessments of civics topics. Thirty-one states reported testing civics topics, with 11 more states (including the District of Columbia) expecting to institute new tests soon. Only 3 of the 31 states reported having a separate, stand-alone civics test, however; in the other 28 states, the civics topics are included in other state assessments. In 15 of the 31 states, student failure on these tests prevents high school graduation; in 2 of the 15 states, failure also prevents promotion.

State certification to teach civics topics. Thirteen states reported offering certification in civics or government (or both) for high school teachers, with 10 of these states also offering certification in civics or government for middle school or junior high school teachers. The most common state certification for teachers of civics topics is a broad history and social studies certification, although 3 states reported requiring only a general teaching certification. Twenty-three states reported requiring teachers to pass some kind of standardized test of their civics knowledge before being certified to teach civics content.

These policies clearly do not meet the standards outlined earlier in this article.

Other shortcomings in civic education

Other shortcomings in civic education that are obvious to informed observers include

- inadequate teacher preparation;
- an emphasis on the structure of institutions and current events without providing the framework of

democratic values and principles required for understanding and decisionmaking;

- lack of sequential and increasingly sophisticated development of the subject; and
- inadequate methodology for teaching knowledge and skills and for fostering desirable attitudes, dispositions, and commitments.

Effectiveness of Good Programs in Civics and Government

A number of studies demonstrate that good instruction in civics and government results in student attainment of the desired knowledge, skills, and attitudes.* I will illustrate what good civic education programs can achieve with the following anecdote reported by a civic educator from the state of Alabama (Black 1999):

> Sixth-graders at Bryan Elementary School in Morris, Alabama, taking part in a civics project tried to get a traffic light installed at a busy intersection near their school. What they thought was a simple task turned out to involve the local city council and police department, the county sheriff's office, the county planning office, the state department of transportation, and other agencies. The students completed their project and presented their recommendations to their city council and police chief. They were promised the light by a certain date. However, when it was not installed at that time, the students developed a lobbying plan and called the officials every week until the light was finally installed.
>
> Six months later, the county commission announced its intention to build a new jail close to Bryan Elementary School on Turkey Creek, an area that the students used as an outdoor science laboratory. Their parents objected to the building of the jail so close to their school. They tried a number of approaches and received a lot of media attention but had very little effect on the county commission.
>
> Then the parents realized they already had "practiced experts in the political process" in their homes, and they began talking with their children about how to influence their county commission. The parents then talked with their children's teachers and obtained copies of the *Project Citizen* textbook [Center for Civic Education 1996] their children had been using.
>
> Advised by their children, the parents got organized. The "angry voters" began turning into "an educated citizenry," county commissioners started turning up at public meetings (instead of ignoring or insulting the parents who came to county commission meetings), and . . . the jail project was cancelled.
>
> In an interesting additional twist, the students' interest in Turkey Creek skyrocketed, and last spring six Bryan classes took part in a field day at the creek, doing trash cleanup and environmental impact studies.

*For example, see University of Texas at Austin (1999a), Brody (1994), Stretcher (1988), and Niemi and Junn (1998).

Need for a National Campaign to Promote Effective Instruction in Civics and Government

There is a need to ensure that all students in the United States receive the kind of instruction in civics and government that will enable them to participate competently and responsibly in the governance of their nation. Under the leadership of Secretary Richard W. Riley, the U.S. Department of Education has provided significant support for civic education. Other agencies of the federal government and Congress have also supported civic education. The federal government can play a leadership and catalytic role in promoting the improvement of civic education. The major responsibility for providing sound programs in civic education, however, lies at the state and local levels, where much work needs to be done.

With the assistance of many of our colleagues, the Center for Civic Education has taken the first steps to launch a national campaign to promote civic education. We are exploring ways to cooperate with other organizations that have also recognized the need for better civic education. These include, for example, the National Conference of State Legislatures, the National Commission for Civic Renewal, the Compact for Learning and Citizenship of the Education Commission of the States, the National Association of Secretaries of State, and the National Council for the Social Studies.

Aristotle said, "If liberty and equality, as is thought by some, are chiefly to be found in a democracy, they will be attained when all persons alike share in the government to the utmost." This quotation conveys an important thought, but I would like to add something to it. What is missing from Aristotle's statement is the idea that participation alone is not enough. We need to develop enlightened participation, and the best way to do that is through civic education. The NAEP findings indicate that about one-quarter of U.S. students demonstrate proficiency in civics. It is our responsibility to make sure the remaining three-quarters of students have an opportunity to do as well. Thus prepared, they should have the capacity and the will to work together to preserve our democratic heritage and narrow the gap between our ideals and reality.

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Data Uses and Limitations

Invited Commentary: Uses and Limitations of the NAEP 1998 Civics Assessment

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This commentary represents the opinions of the author and does not necessarily reflect the views of the National Center for Education Statistics.

The release of a new, major education report is looked upon with considerable anticipation, especially by those of us who worked for years on its conceptualization and operationalization. Reports such as the *NAEP 1998 Civics Report Card for the Nation* answer numerous questions—sometimes confirming what we thought we knew, sometimes catching us by surprise, usually a bit of each. But for those of us interested in the assessment as a research base as well as for the overall and group scores it reveals, the release ironically raises as many questions as it answers.

Has Knowledge of Civics Declined Over Time?

One of the most intriguing questions raised by results of the National Assessment of Educational Progress (NAEP) 1998 Civics Assessment is how students in the 4th, 8th, and 12th grades would have scored on a comparable test 10, 20, or even 50 years ago. It is widely argued that young people in the 1990s are characterized by disinterest, distrust, and disengagement. Though participating heavily in individual acts of community service (as shown in the 1998 civics assessment and elsewhere), students and young adults are uninterested in politics, distrustful of government, and uninvolved in voting and other forms of civic and political life. All of these characteristics might have contributed to low knowledge levels in the new civics assessment. Thus, had there been a civics assessment in, say, the 1950s, the leading hypothesis is that students, on the whole, would have outperformed today's students. Unfortunately, we have only limited evidence on this point.

Lack of knowledge by all age groups has been of concern for a long time, but especially since modern polling techniques have allowed representative, nationwide "tests" of civic knowledge (Hyman and Sheatsley 1947). Still, systematic, over-time evidence about young people is hard to come by. Comparing 1989 survey results to results from the 1940s and 1950s, a recent study found a dramatic increase in the knowledge gap between young people (18- to 29-year-olds) and those 45 to 54 years old; however, a comparison could be made for only five survey questions (Delli Carpini and Keeter 1996, 172). Moreover, changing education levels over this period make such comparisons even more difficult than they would otherwise be. NAEP itself has examined this question for 8th- and 12th-graders using assessments conducted in 1976, 1982, and 1988. Across these three assessments, changes in knowledge levels were small and not entirely consistent, with 13-year-olds performing as well as or better in later years but 17-year-olds generally performing less well (Anderson et al. 1990).[1]

Has Civic Education Declined Over Time?

As discussed above, if our standard is student knowledge in previous years, we are left with something of a puzzle. Supposing, however, that there is a downward trend in knowledge among the newest generations, a further question is raised: Is it the fault of the schools? Have the quantity and quality of civics training declined sufficiently over this period that we can lay the blame on poorer civic education and, more importantly, conclude that a return to higher levels of civic education would reverse the decline in knowledge?

Once again, there is less evidence than we would like, and what information exists contradicts, in part, conventional wisdom. One might begin by observing that in the new assessment over 70 percent of 8th- and 12th-graders claimed they had studied the U.S. Constitution and Congress during the current year, and nearly as many said they had studied topics such as state and local government. These are high percentages, but student reports almost surely overestimate actual coverage. Since 1982, the National Center for Education Statistics (NCES) has conducted periodic high school transcript studies. In work underway (Niemi and Smith 1999), a coauthor and I compare information about course enrollments (not topical coverage) from the 1994 High School Transcript Study with self-reports from the NAEP 1994 U.S. History Assessment. The latter showed enrollment estimates for grades 9, 10, and 12 that were two-and-a-half to three times the percentages shown in students' transcripts (with estimates for grade 11, in which many students in fact take U.S. history, a near match). In any event, for over-time comparisons, we need to draw on additional data.

[1] Analysis of trends between 1988 and 1998 is also planned, since the 1998 civics assessment included a partial replication of the 1988 assessment. NCES plans to release a trend report covering this replication in the year 2000.

The conventional wisdom is that considerably less time is devoted to civic education now than in the past. From the period of educational reform early in this century through the 1950s, students often had a 9th-grade civics course and perhaps a capstone 12th-grade course in civics, American government, or problems of democracy. Beginning in the 1960s, according to the conventional view, this pattern broke down, with more students taking electives in other social studies (especially economics and psychology) or simply taking less social studies altogether.

Such data as we have are not entirely supportive of this picture. For one thing, although information prior to 1982 provides only an approximation of course-taking habits, it appears as if civics or government courses, though widespread, were far from inclusive of all high school students during the "traditional" period (through the 1950s). The conventional picture holds true for the 1970s and early 1980s, as such courses reached a smaller proportion of graduating seniors. Yet between 1982 and 1994, there was a considerable growth rather than further decline in government courses. One tabulation shows the proportion of seniors who had taken at least one semester of civics or American government in grades 9–12 increasing from 62 percent in 1982 to 78 percent in 1994 (Legum et al. 1998, A-199). The latter figure compares favorably with estimates for the middle of the century. To further complicate matters, however, it is likely that in earlier decades students more often had a full-year course rather than only one semester, but we lack hard evidence to support this point.

In any event, information about topical coverage and course-taking habits suggests two points. First, there is room for additional civics instruction, especially at the 12th-grade level. Only half of 1993–94 seniors had a semester or more of American government in their final year of high school, and only about 70 percent had a full year of any social studies (Niemi and Smith 1999). Second, simply increasing the amount of civics teaching, if the recent upswing in government coursework is any guide, is not likely to increase substantially the knowledge levels of young people. Improving the nature and quality of government courses is likely to be as important as increasing the number of students exposed to such courses.

Did Performance Vary Across Different Parts of the Assessment?

Another question that is not answered in the *NAEP 1998 Civics Report Card* is how students performed on the subsections of the assessment. The test was designed to assess a broad range of knowledge, covering several general topics or content areas; at the 12th grade, for example, about 20 percent of the assessment was about the relationship of the United States to other nations and to world affairs (National Assessment Governing Board 1996). It remains to be seen whether students were more knowledgeable about some topics than about others. Judging by the results of the 1988 assessment, considerable variability across subject matter is likely (Niemi and Junn 1998, ch. 2). Similarly, the framework for the 1998 assessment also called for indirectly measuring students' participatory skills and civic dispositions. It will be interesting to observe overall student performance on such dimensions and whether performance varies in the same way as it does on the knowledge component. Variations in performance across subject matter might provide clues as to how the content of government courses could be improved.

A related question is how students performed on multiple-choice versus constructed-response (i.e., open-ended) items.[2] Ultimately, this is a methodological as well as a substantive question. Inasmuch as NAEP is a "low stakes" assessment in which students receive no individual scores, motivation is a problem, especially at the 12th grade. The question raised here is whether motivation is less of a problem for multiple-choice than for open-ended questions. With the former, the right answer is provided (along with several wrong answers). With the latter, students must generate their own answers, without even the usual guidance from the teacher about the kind of answer that is expected.

Does Performance Reflect Ability to Function as a Citizen?

Even if all of the above questions could be answered, there remains the matter of whether the assessment is meaningfully related to an individual's ability to function as a citizen. One can approach this question in a variety of ways. Some, for example, will no doubt argue about specific items or about the particular mix of questions. Indeed, this author, in writing about the 1988 assessment, noted critically the small number of questions about subjects such as political parties, interest groups, and women and minorities (Niemi and Junn 1998, ch. 2). Others will argue that in civics, unlike in mathematics, attitudes are the essential element, and that NAEP is seriously impaired because it is not permitted to assess students' feelings. Political scientists,

[2]Fifty-three percent of the 4th-grade assessment (judged by assessment time) consisted of multiple-choice items. At the 8th and 12th grades, 61 percent was multiple choice.

as of late, have stressed another point, namely, that relatively uninformed individuals can use a variety of heuristics, cues, and shortcuts to guide them in voting and other decisionmaking processes.

While granting some validity to each of these points of view, I would emphasize instead the broad coverage of the new assessment. As noted above, it was designed to test knowledge of a number of content areas, including the nature of civic life and politics generally; the foundations of the American political system, both generally and as it is embodied in the U.S. Constitution; the role of the United States in the international system; and the rights and responsibilities of citizens. But it was also designed to measure students' intellectual and participatory abilities. And, though unable to probe their attitudes, questions were designed to measure students' knowledge and understanding of the importance of civic dispositions, such as by asking how a democratic society benefits from citizens actively participating in the political process. A look at the sample questions on the NCES Web Site will show that students were expected to do much more than answer narrowly constructed questions about arcane constitutional provisions.

Conclusion

Of course, no test is adequate from every perspective, and the NAEP 1998 Civics Assessment is no exception. As discussed above, it will not answer all of the questions we have about student performance levels, even when fully analyzed. Yet the new assessment provides the means to answer many questions about students' knowledge of politics and government as well as the teacher and classroom context for learning about civics. The release of the *NAEP 1998 Civics Report Card* only begins the task of answering these questions. It remains for us to make full use of the new data.

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Writing Report Card

NAEP 1998 Writing Report Card for the Nation and the States

Elissa A. Greenwald, Hilary R. Persky, Jay R. Campbell, and John Mazzeo

This article was originally published as the* NAEP 1998 Writing Report Card Highlights. *Some of the tables and sections from the* Highlights *have been omitted. The sample survey data are from the National Assessment of Educational Progress (NAEP) 1998 Writing Assessment.

American students' achievement in writing at the end of the 20th century is an important indicator of whether young adults in the 21st century will have the writing skills necessary to express themselves clearly. The National Assessment of Educational Progress (NAEP), America's only ongoing survey of what students know and can do in various academic subjects, is one resource that can help inform the public about students' academic preparedness in writing.

NAEP is administered by the National Center for Education Statistics (NCES) with oversight by the National Assessment Governing Board (NAGB). In 1998, NAEP administered a writing assessment to a national sample representative of all students at grades 4, 8, and 12 and to state samples representative of all students at grade 8 in the states and other jurisdictions participating in the state-by-state assessment. The results of the assessment provide a snapshot of American students' achievement in writing.

This article presents highlights from the NAEP 1998 Writing Assessment, describing its content, major findings at the national and state levels, and students' experiences at home and in school that appear to be associated with achievement in writing. Student performance is reported as an average score based on the NAEP writing scale, which ranges from 0 to 300. The average scale score reflects the overall writing performance of a particular group of students. Student writing performance is also reported in terms of three achievement levels: *Basic*, *Proficient*, and *Advanced*. The achievement levels are performance standards adopted by NAGB as part of its statutory responsibilities. The levels are collective judgments of what students should know and be able to do for each grade tested. They are based on recommendations by broadly representative panels of classroom teachers, education specialists, and members of the general public.

As provided by law, the Commissioner of Education Statistics, upon review of a congressionally mandated evaluation of NAEP, has determined that the achievement levels are to be considered developmental and should be interpreted and used with caution. However, both the Commissioner and NAGB believe these performance standards are useful for understanding student achievement. They have been widely used by national and state officials, including the National Education Goals Panel, as a common yardstick of academic performance.

The NAEP 1998 Writing Assessment

In the 1998 writing assessment, a variety of tasks were used to engage students' interest and facilitate their best "first-draft" writing. The *Writing Framework and Specifications for the 1998 National Assessment of Educational Progress* (NAGB 1997) provided the guidelines for developing the writing assessment. This framework, developed by NAGB, represents the expertise and experience of a wide array of specialists and concerned citizens, such as writing teachers, researchers, business leaders, scholars, and policymakers.

Objectives for the assessment

The framework is based on six objectives that should guide students' development as writers:

- *Objective 1:* Students should write for a variety of purposes: narrative, informative, and persuasive.
- *Objective 2:* Students should write on a variety of tasks and for many different audiences.
- *Objective 3:* Students should write from a variety of stimulus materials and within various time constraints.
- *Objective 4:* Students should generate, draft, revise, and edit ideas and forms of expression in their writing.
- *Objective 5:* Students should display effective choices in the organization of their writing. They should include detail to illustrate and elaborate their ideas, and use appropriate conventions of written English.
- *Objective 6:* Students should value writing as a communicative activity.

Purposes for writing

The NAEP 1998 Writing Assessment measured students' performance on three types of writing: narrative, informative, and persuasive. These three broad types, or "purposes for writing," are commonly used in writing instruction, and thus were deemed most appropriate for NAEP's assessment of student achievement.

Narrative writing. Narrative writing involves the production of stories or personal essays. It encourages writers to use their creativity and powers of observation to develop stories that can capture a reader's imagination.

The narrative tasks in the 1998 writing assessment asked students to write many kinds of stories (mostly fiction, some nonfiction). Some of the tasks asked students to write in response to photographs, cartoons, poems, or stories, which were provided with the assessment.

Informative writing. Informative writing communicates information to the reader, whether it is to share knowledge or to convey messages, instructions, and ideas. It may involve reporting on events or experiences, or analyzing concepts and relationships.

The informative tasks in the 1998 writing assessment allowed students to write on specified subjects in a variety of formats, such as reports, reviews, and letters. Many of the tasks asked students to write in response to information provided with the assessment, such as newspaper articles, charts, photographs, and reported dialogues.

Persuasive writing. Persuasive writing seeks to influence the reader to take some action or bring about change. It may contain factual information, such as reasons, examples, or comparisons; however, its main purpose is not to inform, but to persuade.

The persuasive tasks in the 1998 writing assessment asked students to write letters to friends, newspaper editors, or

prospective employers; to refute arguments; or to take sides in a debate. Many of the tasks asked students to respond to letters, cartoons, or arguments, which were provided with the assessment.

NAEP Writing Assessment Results for the Nation

As shown in table A, 23 percent of 4th-graders, 27 percent of 8th-graders, and 22 percent of 12th-graders were at or above *Proficient*—the level identified by NAGB as the standard all students should reach.

While table A shows the cumulative percentages of students "at or above" each achievement level, figure A shows the percentage of students who fell below the *Basic* achievement level and those within the *Basic*, *Proficient*, and *Advanced* levels. The figure makes it clear that over half of the students at each grade were within the *Basic* level of writing performance.

National Results for Selected Student Subgroups

The NAEP writing scores at each grade (4, 8, and 12) range from 0 to 300, with a national average of 150 (including both public and nonpublic school students). These scores can be used to compare various subgroups of students.

Writing performance by gender

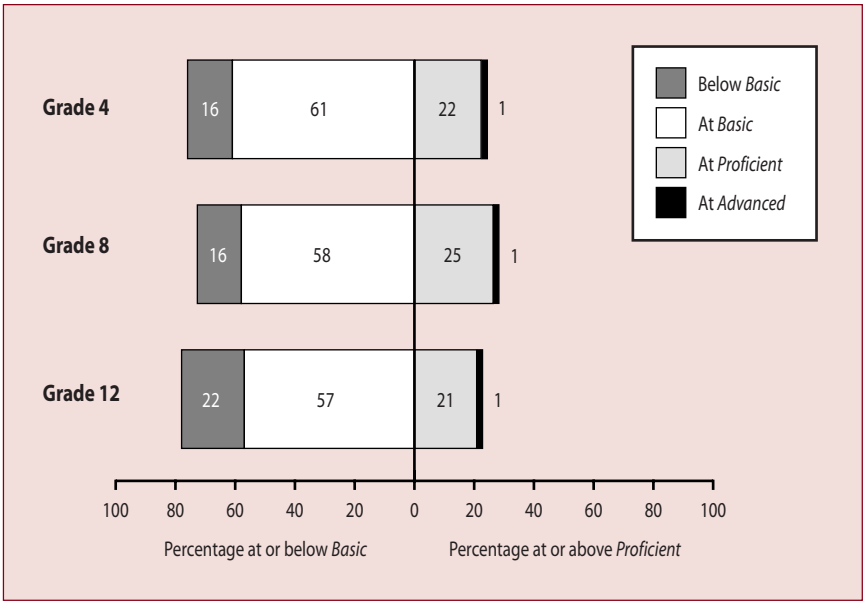
At all three grades, females had higher average scores than males. At each grade, a higher percentage of female students than male students were at or above *Proficient*. Across the three grades, between 29 and 36 percent of female students were at or above *Proficient*. In comparison, between 14 and 17 percent of male students were at or above this level.

Table A.—Percentage of students at or above the writing achievement levels: 1998

	Nation			
	Below *Basic*	At or above *Basic*	At or above *Proficient*	*Advanced*
Grade 4	16	84	23	1
Grade 8	16	84	27	1
Grade 12	22	78	22	1

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP) 1998 Writing Assessment. (Previously published on p. 10 of the *NAEP 1998 Writing Report Card Highlights*.)

Figure A.—Percentage of students within each writing achievement-level range: 1998



SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP) 1998 Writing Assessment. (Previously published on p. 10 of the *NAEP 1998 Writing Report Card Highlights*.)

Writing performance by race/ethnicity

At grade 4, Asian/Pacific Islander students had higher scores than white students, who, in turn, had higher scores than black, Hispanic, and American Indian students. American Indian students also scored higher than black students at grade 4. At grades 8 and 12, Asian/Pacific Islander students and white students had higher scores than black, Hispanic, and American Indian students.

Across the three grades, the percentages of students who reached or exceeded the *Proficient* achievement level were 26 to 34 percent among white students, 8 percent among black students, 10 to 11 percent among Hispanic students, 24 to 36 percent among Asian/Pacific Islander students, and 9 to 11 percent among American Indian students.

Writing performance by type of school

At all three grades, students attending nonpublic schools had higher scores than students attending public schools. Differences between the performance of students in public and nonpublic schools may be due to factors such as admission standards and the likelihood of greater parental involvement at nonpublic schools.

At each grade, a higher percentage of nonpublic school students reached or exceeded the *Proficient* level than did public school students. Across the three grades, between 35 and 44 percent of nonpublic school students were at or above the *Proficient* level of performance. In comparison, between 20 and 24 percent of public school students reached or exceeded this level.

School and Home Factors Related to Writing Achievement

What classroom activities are related to students' writing performance? Are there aspects of students' home environments that seem to encourage and support writing achievement? NAEP collects information that may help researchers, educators, and parents answer these questions. For example, it may help educators discover that their activities to support writing are shared by their colleagues across the nation. It can suggest approaches to help students become better writers, and it can provide a resource for parents seeking to support their children's success in writing.

While it is possible to study the relationship between students' writing performance and various home and school practices, it cannot be established that these practices cause a higher level of achievement in writing. The relationship that exists between writing achievement and another factor may, in fact, be caused by a complex interaction of numerous factors.

Talking about writing

Students who participated in the NAEP 1998 Writing Assessment were asked how often they talked with their teachers about their writing while they were working on a writing assignment.

At all three grades, most students said that they spoke with their teachers about what they were writing while engaged in a writing activity. Those students who said that their teachers "always" or "sometimes" spoke with them about their writing did better than the students who said that their teachers "never" did so. Furthermore, at grades 8 and 12, students who said that their teachers "always" talked with them about their writing while they were working on it had higher scores than those who reported that their teachers "sometimes" did so.

Planning to write

Research on the writing process suggests that students who have the opportunity to think about what they want to say and how best to express it in writing are more engaged with the writing task and, therefore, are more likely to express their ideas clearly. Each student participating in the 1998 writing assessment was given a brochure that discussed how to plan for and revise writing. Students were also given space in their test booklets for planning their writing.

Forty-seven percent of 4th-graders, 66 percent of 8th-graders, and 67 percent of 12th-graders planned for their response to at least one of the two tasks in the test booklet. At all three grades, students who planned their responses to both tasks had higher average scores than those who did not plan for either task or who planned for only one task.

Reading materials in the home

Young people who have a variety of reading materials in the home can learn to appreciate different kinds of reading experiences and writing styles. Furthermore, exposure to many different kinds of writing may support students' development as versatile writers. In the 1998 writing assessment, students were asked about the number and types of reading materials they had at home.

At all three grades, between 38 and 53 percent of students said they had "four" different kinds of reading materials (books, magazines, a newspaper, and an encyclopedia) at home. At all three grades, the students who said they had

"four" kinds of reading materials at home had higher scores than those who said they had "three" or "two or fewer."

Discussing studies at home

Students need opportunities to discuss their schoolwork with caring family members at home. Research has documented the higher achievement of children whose families take an active role in their learning. Recognizing this, education reforms such as those embodied in Goals 2000* have sought to strengthen the relationship between parents and schools.

In the 1998 writing assessment, students were asked how often they discuss their studies with someone at home. At all three grades, most students said they discussed their studies with someone at home "at least once a week." These students had higher scores than those who said they discussed their studies at home less frequently.

*National Education Goals were set in 1990, and eight goals for the year 2000 were codified in the Goals 2000: Educate America Act (Public Law 103–227), signed by President Clinton in 1994. Reports on the goals are published regularly by the National Education Goals Panel (e.g., NEGP 1999).

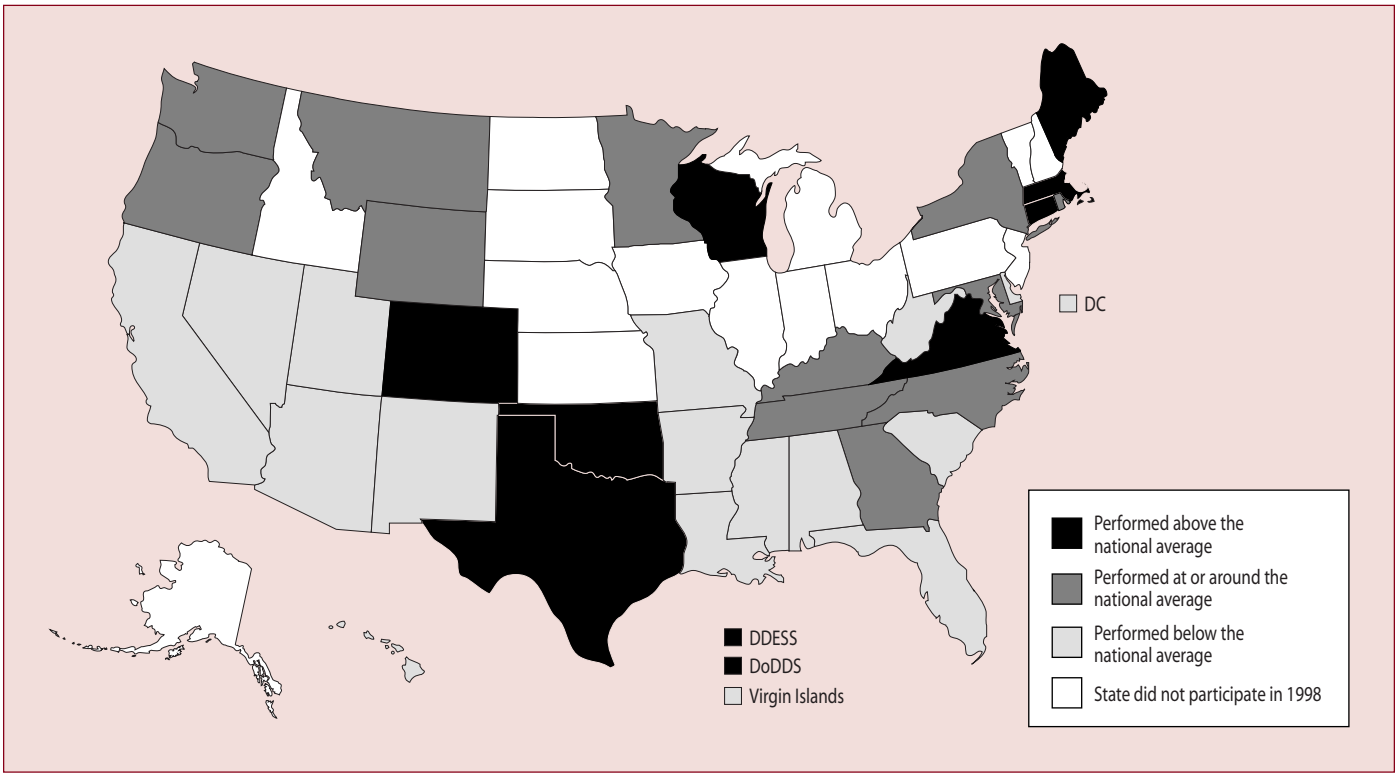
Writing Performance Within States

While the average scale scores of students across the nation provide parents and educators with a broad view of how well American students are performing in writing, it is also informative to examine the writing performance of students in individual states. In 1998, in addition to the national assessment, NAEP examined the writing performance of representative samples of eighth-grade students in states and other jurisdictions that volunteered to participate in a state-level assessment.

Scale-score results for the states

Eighth-grade public school students in 35 states and 4 other jurisdictions participated in the NAEP state-level assessment. In 1998, the national average writing score for public school students was 148, and scores for students participating in the state-level assessment ranged from 124 to 165. Differences in writing performance among states and jurisdictions are most likely related to a combination of factors, including the effectiveness of an individual state's or jurisdiction's programs, economic constraints, and student demographic characteristics. Figure B shows whether each

Figure B.—State writing scores of eighth-grade public school students relative to the national average: 1998



DDESS: Department of Defense Domestic Dependent Elementary and Secondary Schools; DoDDS: Department of Defense Dependents Schools (Overseas)

NOTE: National results are based on the national assessment sample, not on aggregated state assessment samples. Differences between states and jurisdictions may be partially explained by other factors not included in the figure.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP) 1998 Writing Assessment. (Previously published on p. 14 of the *NAEP 1998 Writing Report Card Highlights*.)

participating state and jurisdiction scored above the national average of 148, at or around the national average, or below the national average.

Achievement-level results for the states

In 1998, across the participating states and other jurisdictions, between 47 and 66 percent of students were within the *Basic* level of performance, between 8 and 40 percent were within the *Proficient* level, and between 0 and 6 percent were within the *Advanced* level. Furthermore, across the participating states and other jurisdictions, between 61 and 91 percent of students were at or above the *Basic* level of performance, and between 9 and 44 percent were at or above the *Proficient* level.

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Data source: The National Assessment of Educational Progress (NAEP) 1998 Writing Assessment.

For technical information, see the complete report:

Greenwald, E.A., Persky, H.R., Campbell, J.R. and Mazzeo, J. (1999). *NAEP 1998 Writing Report Card for the Nation and the States* (NCES 1999–462).

For additional details about NAEP 1998 methodology, see

Allen, N.L., Donoghue, J.R., and Schoeps, T.L. (forthcoming). *The NAEP 1998 Technical Report* (NCES 2000–463).

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To obtain the complete report (NCES 1999–462), call the toll-free ED Pubs number (877–433–7827), visit the NCES Web Site *(http://nces.ed.gov),* or contact GPO (202–512–1800).

To obtain the Highlights brochure from which this article is excerpted (NCES 1999–464), call the toll-free ED Pubs number (877–433–7827) or visit the NCES Web Site *(http://nces.ed.gov).*

Student Musical Activities and Achievement in Music: NAEP 1997 Arts Assessment

Sheida White and Alan Vanneman

This article was originally published as a* NAEPfact. *The sample survey data are from the National Assessment of Educational Progress (NAEP) 1997 Arts Assessment.

Overview

Data from the National Assessment of Educational Progress (NAEP) 1997 Arts Assessment in Music, which covered eighth-grade students only, regardless of whether they had received instruction in music, show that student involvement in a variety of music activities—playing an instrument in particular—is positively related to student music achievement.

Introduction

In 1997, the National Center for Education Statistics (NCES) assessed arts education in the United States for the first time in almost 20 years.[1] At first glance, some findings of the assessment were surprising and disappointing to many arts educators. In music, for example, the assessment found that students attending schools where they received instruction in music three or four times a week did not necessarily outperform students attending schools where music was not taught (Persky, Sandene, and Askew 1998, 144 ff). The same was true of students attending schools where the great majority of students received instruction in music as compared to students attending schools where very few received instruction in music. (The music assessment was given to a general sample of students, regardless of whether they had received any instruction in music.)

However, a closer look at in-school instructional activities, most notably those requiring students to play a musical instrument, did show a consistent relationship to higher student achievement in music. This *NAEPfact* discusses relationships between students' achievement in music and their involvement in a variety of in- and out-of-school activities. These activities can range from students listening to music on their own to being required to play their instruments in class. Analysis of data gathered in the assessment shows a relationship between many such activities and higher student achievement in music.

The NAEP Arts Assessment

The NAEP arts assessment measured students' ability to create and perform works of art as well as to respond to existing works. For music, students were assessed on three arts processes: Creating, Performing, and Responding. In the arts assessment framework (National Assessment Governing Board 1994),

- *Creating* refers to expressing ideas and feelings in the form of an original work of art, for example, a musical improvisation.
- *Performing* refers to performing an existing work, a process that calls upon the interpretive or re-creative skills of the student.
- *Responding* refers to observing, describing, analyzing, and evaluating works of art.

In order to capture all three processes, the arts assessment exercises included Creating and Performing tasks in addition to standard paper-and-pencil tasks. These tasks, among other things, asked students to sing and play instruments, to sight-read music, and to improvise. In these tasks, students were also asked to comment in writing on their work. The Responding tasks asked students to describe, analyze, interpret, and evaluate works of art, both by writing short statements and essays and by answering multiple-choice questions.

The NAEP 1997 Music Assessment used a nationally representative sample of 2,275 eighth-grade students. All students engaged in Responding and Creating and/or Performing tasks.[2]

Student Achievement

Student performance on the arts assessment is presented in several ways. The overall summaries of results treat each of the three processes—Creating, Performing, and Responding—separately. Responding results for music are summarized on a scale that ranges from 0 to 300. Scores that fell in the bottom 25 percent of the scale were labeled "Lower Level" scores; those in the middle 50 percent were labeled "Middle Level"; and those in the top 25 percent were labeled "Upper Level." Creating and Performing results for music are not summarized using a standard NAEP scale. Instead of a scale, Creating and Performing results are

[1] NCES assessed music in 1972 and 1978 and visual arts in 1975 and 1978.

[2] A total of 567 students currently engaged in a music activity (either instrumental or vocal) were given an additional Creating or Performing task, but results for this additional task are not discussed in this *NAEPfact*. For full information, see *The NAEP 1997 Arts Report Card* (Persky, Sandene, and Askew 1998).

presented as average percentages of the maximum possible score on exercises. These average scores represent the overall mean percentage students earned of the possible number of points for the components of Creating and Performing tasks. For example, if the maximum possible score on the Creating tasks in the music assessment was 129, and the average student had a combined score of 43, then the average percentage would be 33 (i.e., 43 is 33 percent of 129).

Differences in music achievement are reported here only if they are *statistically significant*. This means that the observed differences in the samples are likely to reflect real differences in the population and are highly unlikely to have resulted from chance factors associated with sampling variability. Reporting of these differences is not intended to imply any judgment about cause and effect nor to make any judgment on the educational relevance of the differences.

Responding Scores and Students' Music Experiences

As table 1 demonstrates, student involvement in many different music activities was positively related to higher Responding scores. In fact, of the 13 activities surveyed, only one, "Take private singing lessons," did not show a positive relationship. For 8 of the 13 activities considered, Middle Level students were more likely to be engaged in the selected activity than Lower Level students. Upper Level students were more likely to be active than Lower Level students in 12 of the 13 activities, and more likely to be active than Middle Level students in 11 of the activities.

Performing and Creating Scores and In-School Music Activities

Table 2 provides data on students' in-school music activities, as they reported them, in comparison with students' Performing and Creating scores. Students were asked how often their teachers asked them to perform certain music activities.

As the table indicates, some 34 to 40 percent of eighth-grade students reported that they were not currently enrolled in music class. For each of the five activities considered, these students had lower scores than at least one group of students who were taking music. However, not all students who were taking music had higher scores than students who were not.

It is notable that students who were asked to play their instruments almost every day had higher scores than all

Table 1.—Student participation in music activities by level of performance on the Music Responding Scale

	Percentage of students		
	In the Lower Level of the scale	In the Middle Level of the scale	In the Upper Level of the scale
In-school student activities			
Play in a band	6	10*	44*†
Play in an orchestra	2	1	7*†
Sing in a chorus or choir	9	21*	35*†
Take private singing lessons	3†	1	3
Take private lessons on an instrument	3	5	25*†
Own a musical instrument	15	33*	77*†
Go with class to three or more concerts in the past year	5	10*	25*†
Out-of-school activities			
Play a musical instrument	11	20*	58*†
Play with a group, band, or orchestra	7	7	15*†
Sing in a group, chorus, or choir	10	16*	21*†
Take private lessons on a musical instrument or in singing	4	5	29*†
Listen to musical tapes, CDs, or records	79	95*	97*
Talk with family or friends about music	30	38*	52*†

*Higher than Lower Level.

†Higher than Middle Level.

How to read this table: This table gives the percentages of students scoring at the Lower (bottom 25 percent), Middle (middle 50 percent), and Upper (upper 25 percent) Levels of the Music Responding Scale who answered affirmatively to a variety of questions regarding their in-school and out-of-school activities. For example, 6 percent of those scoring in the Lower Level said they played in a band, while 10 percent of those scoring in the Middle Level, and 44 percent of those scoring in the Upper Level, said they did so.

NOTE: All tests of statistical significance were made at the .05 level with appropriate adjustments for multiple comparisons.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP) 1997 Arts Assessment.

Table 2.—Students' music Performing and Creating scores by involvement in in-school music activities

When you take music class in school, how often does your teacher do each of the following things?	Percentage of students[1]	Average Performing score (0–100 percent)	Average Creating score (0–100 percent)
Play music for you to listen to			
Almost every day	28	33	33
Once or twice a week	13	39*	42*†‖
Once or twice a month	10	44*‖	42*†‖
Never or hardly ever	14	35	33
I don't have music	34	29	30
Ask you to sing			
Almost every day	13	40*	42*†§
Once or twice a week	11	36	35
Once or twice a month	6	32	37
Never or hardly ever	35	36*	35
I don't have music	35	29	31
Ask you to play instruments			
Almost every day	16	53*†‡§	50*†‡§
Once or twice a week	6	38*	41*†
Once or twice a month	6	35	35
Never or hardly ever	32	31	31
I don't have music	40	27	30
Ask you to write down music			
Almost every day	5	#	39*
Once or twice a week	10	#	37*
Once or twice a month	11	#	39*
Never or hardly ever	36	#	37*
I don't have music	38	#	30
Ask you to make up your own music			
Almost every day	4	#	40
Once or twice a week	5	#	35
Once or twice a month	8	#	34
Never or hardly ever	47	#	38*
I don't have music	37	#	30

#Apply to students assigned Creating tasks only. For this reason, no data appear in the "Average Performing score" column.

*Higher than "I don't have music."

†Higher than "Never or hardly ever."

‡Higher than "Once or twice a month."

§Higher than "Once or twice a week."

‖Higher than "Almost every day."

[1]Percentages in this column may not sum to 100, due to rounding.

NOTE: All tests of statistical significance were made at the .05 level with appropriate adjustments for multiple comparisons.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP) 1997 Arts Assessment.

other students, for both Performing and Creating. Students whose teachers asked them to sing almost every day had higher Creating scores than all students except those whose teachers asked them to sing once or twice a month. However, in Performing, students whose teachers asked them to sing almost every day outscored only those students who did not take music; they did not outscore students who sang in class less frequently.

It is also notable that students whose teachers played music for them to listen to once or twice a month had higher scores than students whose teachers played music for them to listen to almost every day, for both Performing and Creating. These students also outscored students who did not take music.

For Creating scores only, students whose teachers played music for them to listen to once or twice a week or once or twice a month also outperformed students whose teachers never or hardly ever played music for them to listen to. Thus, for Creating scores, there is an overall pattern that students whose teachers occasionally required them to listen to music in class had higher average scores than both those students whose teachers rarely required them to listen to music and those whose teachers required them to do so almost every day.

Performing and Creating Scores and In- and Out-of-School Activities

Table 3 shows the percentages of students engaged in various in- and out-of-school music activities and their Performing and Creating scores. In every case where data were available, students who had engaged in the activity had higher scores than those who had not. There is a substantial overlap in categories for table 3 and table 1, which considers students' Responding scores. Both tables demonstrate a generally positive relationship between involvement in music activities and student achievement in music.

Relationships Among Responding and Performing and Creating Results

As table 4 demonstrates, students who scored higher on the Responding portion of the music assessment were likely to score higher on both the Performing and Creating portions of the music assessment as well. For both Performing and Creating, students who scored in the Middle Level of the Responding Scale had higher average scores than those who scored in the Lower Level, and students who scored in the Upper Level of the Responding Scale had higher average scores than those who scored in the Middle Level.

Table 3.—Students' music Performing and Creating scores and their involvement in in-school and out-of-school music activities

	Percentage of students	Average Performing score (0–100 percent)	Average Creating score (0–100 percent)
Which of the following activities do you do in school?			
Play in a band			
Yes	18	52*	50*
No	82	30	31
Play in an orchestra			
Yes	3	—	53*
No	97	33	34
Sing in a chorus or choir			
Yes	22	43*	40*
No	78	31	33
When you are NOT in school, do you ever do the following things on your own, NOT in connection with schoolwork?			
Take private lessons on a musical instrument or in singing			
Yes	11	59*	52*
No	89	31	32
Listen to a musical tape, CD, or record			
Yes	92	35*	35*
No	8	21	29
Read a book about music			
Yes	12	41*	42*
No	88	33	33
Listening to or attending musical performances: In the last year, how many times did your class go to a concert?			
Three or more	13	43*†	45*
Once or twice	26	37*	35*
None	61	32	32
Have you ever listened to a musical performance at school?			
Yes	77	36*	36*
No	23	24	30

*Higher than "No" or "None."

†Higher than "Once or twice."

—Sample size is insufficient to permit a reliable estimate.

NOTE: All tests of statistical significance were made at the .05 level with appropriate adjustments for multiple comparisons.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP) 1997 Arts Assessment.

Table 4.—Average student scores on Performing and Creating by level of performance on the Music Responding Scale

Level of performance on the Music Responding Scale	Percent correct on the	
	Performing scale	Creating scale
Lower	18	24
Middle	29*	30*
Upper	56*†	52*†

*Higher than Lower Level.

†Higher than Middle Level.

NOTE: All tests of statistical significance were made at the .05 level with appropriate adjustments for multiple comparisons.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP) 1997 Arts Assessment.

Conclusion

The NAEP 1997 Arts Assessment in Music confirmed what many educators would predict, that student involvement in music activities is positively related to student achievement in music. The assessment also found a positive relationship between students responding to music and students "doing" music—creating and performing.

These findings are not demonstrations of causal relationships. For example, schools that initiate a requirement that students play their instruments almost every day may have a more extensive music program than most schools; or they may be located in higher income areas, where it is not unreasonable to ask that every student purchase an inexpensive instrument or where the school can afford to provide every student with an instrument. A wide variety of factors influence student achievement in any subject. But the findings highlighted in this *NAEPfact* can have relevance to future research and practice in music education.

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Data source: The National Assessment of Educational Progress (NAEP) 1997 Arts Assessment.

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Student Subgroup Achievement on the NAEP 1997 Arts Assessment

Sheida White and Alan Vanneman

This article was originally published as a* NAEPfact. *The sample survey data are from the National Assessment of Educational Progress (NAEP) 1997 Arts Assessment.

Overview

Data from the National Assessment of Educational Progress (NAEP) 1997 Arts Assessment for eighth-grade students show that female students outperformed male students in every category of assessment for all three art forms assessed—music, theatre, and visual arts. In contrast to assessments in other subjects, nonpublic school students rarely outperformed public school students. Asian and white students had higher scores than black and Hispanic students in many but not all categories of the assessment.

Introduction

In 1997, the National Center for Education Statistics (NCES) assessed art education in the United States for the first time in almost 20 years.[1] This *NAEPfact* discusses achievement of student subgroups for all three arts assessed—music, theatre, and visual arts. (A planned assessment of dance was not possible because the number of schools offering a significant program in dance was so small that NCES could not identify a sample large enough to produce statistically valid results.) Analysis of student subgroup achievement compares achievement by gender, race/ethnicity, and type of school attended (public or nonpublic).

The NAEP Arts Assessment

The NAEP arts assessment measured students' ability to create and perform works of art as well as to respond to existing works. For each art form, students were assessed on at least two of the three arts processes: Creating, Performing, and Responding. In the arts assessment framework (National Assessment Governing Board 1994),

- *Creating* refers to expressing ideas and feelings in the form of an original work of art, for example, a piece of music, a dramatic improvisation, or a sculpture.
- *Performing* refers to performing an existing work, a process that calls upon the interpretive or re-creative skills of the student.
- *Responding* refers to observing, describing, analyzing, and evaluating works of art.

In order to capture all three processes, the arts assessment exercises included Creating and Performing tasks in addition to standard paper-and-pencil tasks. The Creating and Performing tasks, among other things, asked students to sing, create music, act in theatrical improvisations, work with various media to create works of visual art, and to perform and improvise dances.[2] In these tasks, students were also asked to evaluate their own work in written form. The Responding tasks, which used the paper-and-pencil format, asked students to describe, analyze, interpret, and evaluate works of art, both by writing short statements and essays and by answering multiple-choice questions. Students were given a series of related tasks (Creating, Responding, or Performing), arranged in blocks from 25 to 50 minutes in length.

The Student Samples

The NAEP 1997 Arts Assessment was conducted nationally at grade 8. For music and visual arts, representative samples of public and nonpublic school students were assessed. Students were assessed regardless of whether they had any training in music or the visual arts. In theatre, on the other hand, NCES used a targeted sample, confined to students who had accumulated 30 hours of theatre classes by the end of the 1996–97 school year and who were attending schools offering at least 44 classroom hours of a theatre course per semester and offering courses including more than the history or literature of theatre.

The decision to assess a targeted sample of students for theatre was made based on the results of the 1995 NAEP field tests at grades 4 and 8. Field-test data indicated that small percentages of students were exposed to comprehensive theatre programs in the nation's schools. A general or untargeted assessment would not assess enough students with significant instruction in theatre to provide statistically significant results. NCES decided to use a targeted assessment for theatre in order to obtain meaningful data on the full range of student performance in theatre. The music sample consisted of 2,275 students, while the visual arts sample had 2,999 students and the theatre sample, 1,386 students.

When making comparisons between the theatre results and the music and visual arts results, the reader should keep in

[1] NCES assessed music in 1972 and 1978 and visual arts in 1975 and 1978.

[2] To provide an understanding of the assessment that was planned for dance, the dance assessment tasks are included in *The NAEP 1997 Arts Report Card* (Persky, Sandene, and Askew 1998).

mind the fact that the theatre sample was not a random national sample. To underscore the differences in samples, theatre results are presented after music and visual arts results.

Student Achievement

Student performance on the arts assessment is presented in several ways. The overall summaries of results treat each of the three processes—Creating, Performing, and Responding—separately. Responding results within music, theatre, and visual arts are summarized on a scale ranging from 0 to 300.

Creating and Performing results are not summarized using a standard NAEP scale. Instead of a scale, Creating and Performing results are presented as average percentages of the maximum possible score on tasks. These average scores represent the overall mean percentage students earned of the possible number of points for the components of Creating and Performing tasks. For example, if the maximum possible score on the Creating tasks in the visual arts was 129, and the average student had a combined score of 43, then the average percentage would be 33 (i.e., 43 is 33 percent of 129).

The NAEP arts framework concluded that assessment of the Creating and Performing processes would be different for each of the three arts assessed, due to differences in the nature of these arts. Students who participated in music were assessed in both Creating and Performing. Those assessed in the visual arts were assessed in Creating only, because Performing is not usually part of the visual arts. Students assessed in theatre were assessed in a combined process, Creating/Performing, because performance in the theatre almost always involves creative activities as well.

Differences in achievement are reported here only if they are *statistically significant*. This means that the observed differences in the samples are likely to reflect real differences in the population and are highly unlikely to have resulted from chance factors associated with sampling variability. Reporting of these differences is not intended to imply any causal relationships nor to make any judgment on the educational relevance of the differences.

Readers are cautioned against making simplistic inferences about differences in performance among different groups of students. Average performance differences may be partly related to socioeconomic or sociological factors, such as parental education or parental involvement. More in-depth investigations would be required to produce a clearer picture of performance differences by subgroup.

Gender

Differences in achievement by gender were pronounced. Female students outperformed male students in every category, for all three arts assessed (table 1). Female students have also outperformed males in NAEP

Table 1.—Eighth-grade students' arts achievement scores by gender

	Average Creating[1] score (0–100 percent)	Average Performing score (0–100 percent)	Average Responding scale score (0–300)
Music			
National average	34	34	150
Males	32*	27*	140*
Females	37	40	160
Visual arts			
National average	43	(✪)	150
Males	42*	(✪)	146*
Females	45	(✪)	154
Theatre			
National average	49	(✪)	150
Males	46*	(✪)	140*
Females	52	(✪)	158

✪Not applicable.

*Scores lower than those achieved by female students.

[1]"Creating/Performing" for theatre only.

NOTE: All tests of statistical significance were made at the .05 level with appropriate adjustments for multiple comparisons.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP) 1997 Arts Assessment.

assessments in two other subjects, reading and writing, at the 4th, 8th, and 12th grades (Applebee et al. 1994; Campbell et al. 1996).

Race/Ethnicity

Differences in achievement by race/ethnicity were also common (table 2). Whites outperformed Hispanics in every category for all three arts assessed and outperformed blacks in every category except music Creating. Asians outperformed Hispanics and blacks in music Responding and visual arts Responding and outperformed them in visual arts Creating as well. Because the samples for Pacific Islanders and American Indians were too small to provide statistically valid data, these subgroups are omitted from table 2.

Type of School

Approximately 90 percent of the nation's grade 8 students attend public schools. The remainder attend Catholic and other private schools (that is, nonpublic schools). In past NAEP assessments across a variety of subjects, students attending nonpublic schools have consistently outperformed students attending public schools.

That pattern was not found in the 1997 arts assessment (table 3). Nonpublic school students had higher scores in only one category, visual arts Responding. For visual arts Creating, and for all music categories, scores for public and nonpublic students were similar. No comparison was possible for theatre, because the nonpublic school sample was too small.

Table 2.—Eighth-grade students' arts achievement scores by race/ethnicity

	Average Creating[1] score (0–100 percent)	Average Performing score (0–100 percent)	Average Responding scale score (0–300)
Music			
All students	34	34	150
Students who indicated their race/ethnicity as …			
White	36	36	158
Black	34	30*	130*†
Hispanic	29*	24*	127*†
Asian	31	—	152
Visual arts			
All students	43	(✪)	150
Students who indicated their race/ethnicity as …			
White	46	(✪)	159
Black	37*†	(✪)	124*†
Hispanic	38*†	(✪)	128*†
Asian	45	(✪)	153
Theatre			
National average	49	(✪)	150
Students who indicated their race/ethnicity as …			
White	52	(✪)	159
Black	39*	(✪)	120*
Hispanic	44*	(✪)	139*
Asian	—	(✪)	—

✪Not applicable.

*Scores lower than those achieved by white students.

†Scores lower than those achieved by Asian students.

—Sample size is insufficient to permit a reliable estimate.

[1]"Creating/Performing" for theatre only.

NOTE: All tests of statistical significance were made at the .05 level with appropriate adjustments for multiple comparisons.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP) 1997 Arts Assessment.

Table 3.—Eighth-grade students' arts achievement scores by type of school attended

	Average Creating[1] score (0–100 percent)	Average Performing score (0–100 percent)	Average Responding scale score (0–300)
Music			
National average	34	34	150
Public school students	34	34	149
Nonpublic school students	37	33	158
Visual arts			
National average	43	✪	150
Public school students	43	✪	148*
Nonpublic school students	44	✪	167
Theatre			
National average	49	✪	150
Public school students	48	✪	146
Nonpublic school students	—	✪	—

✪Not applicable.

*Scores lower than those achieved by nonpublic school students.

—Sample size is insufficient to permit a reliable estimate.

[1]"Creating/Performing" for theatre only.

NOTE: All tests of statistical significance were made at the .05 level with appropriate adjustments for multiple comparisons.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP) 1997 Arts Assessment.

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Data source: The National Assessment of Educational Progress (NAEP) 1997 Arts Assessment.

For technical information, see

Allen, N., Swinton, S., and Schoeps, T. (forthcoming). *The NAEP 1997 Arts Analysis Technical Report* (NCES 2000–486).

Persky, H. (forthcoming). *The NAEP Arts Process Report: The NAEP 1995 and 1997 Arts Field Test* (NCES 2000–485).

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Arts Instruction

Frequency of Arts Instruction for Students

Sheida White and Alan Vanneman

This article was originally published as a* NAEPfact. *The sample survey data are from the National Assessment of Educational Progress (NAEP) 1997 Arts Assessment.

This *NAEPfact* discusses data from the NAEP 1997 Arts Assessment on the extent and availability of instruction in four arts: dance, music, theatre, and the visual arts. These data, obtained from school administrators, indicate that while extensive programs in music and visual arts instruction for eighth-graders are well established in most schools, extensive programs for either theatre or dance are uncommon. "Extensive instruction" is defined as providing instruction in a subject to the typical student at least three or four times a week.

In 1997, the National Center for Education Statistics (NCES) assessed arts education in the United States for the first time in almost 20 years.* Originally, NCES planned to assess student achievement in dance, music, theatre, and the visual arts in grade 8, using a nationally representative sample for each. However, the actual assessment used nationally representative samples for music and the visual arts only. Due to the limited number of schools offering a significant program in theatre, NCES used a targeted sample for theatre. Schools offering at least 44 classroom hours of a theatre course per semester, and offering courses including more than the history or literature of theatre, were identified for the sample. In these schools, students who had accumulated 30 hours of theatre classes by the end of the 1996–97 school year were selected to take the theatre assessment. NCES conducted no assessment for dance at all, because the number of schools offering a significant program in dance was so small that obtaining even a targeted sample was not feasible. Data reported in this *NAEPfact* for dance, theatre, and visual arts are taken from the visual arts sample. Music data are taken from the music sample.

As table 1 indicates, only 3 percent of the nation's eighth-graders attend schools that reported the typical eighth-grader receives instruction in dance at least three or four times a week. In contrast, 52 percent of eighth-graders attend schools where the typical eighth-grader receives instruction in visual arts at least three or four times a week, and 43 percent of eighth-graders attend schools offering this level of instruction in music. For theatre, the comparable figure is 10 percent, well below the figures for music and visual arts and similar to the figure for dance. Eighty percent of eighth-graders attend schools that offer no instruction in dance for eighth-graders, and 74 percent attend schools that offer no instruction in theatre, compared to 17 percent who attend schools that offer them no instruction in visual arts and 9 percent who attend schools that offer them no instruction in music.

*NCES assessed music in 1972 and 1978 and visual arts in 1975 and 1978.

Data source: The National Assessment of Educational Progress (NAEP) 1997 Arts Assessment.

For technical information, see

Allen, N., Swinton, S., and Schoeps, T. (forthcoming). *The NAEP 1997 Arts Analysis Technical Report* (NCES 2000–486).

Persky, H. (forthcoming). *The NAEP Arts Process Report: The NAEP 1995 and 1997 Arts Field Test* (NCES 2000–485).

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Table 1.—Schools' reports on the frequency with which their eighth-grade students receive instruction in the arts

How often does a typical eighth-grade student in your school receive instruction in each of the following subjects?	Percentage of students			
	At least 3 or 4 times a week	Once or twice a week	Less than once a week	Subject not taught
Dance	3	4	13	80
Music	43	38	10	9
Theatre	10	7	8	74
Visual arts	52	25	5	17

NOTE: Percentages may not sum to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP) 1997 Arts Assessment.

Students Who Took Advanced Placement (AP) Examinations

This article was originally published as an Indicator of the Month, taken from **The Condition of Education: 1999.** *The universe data are from the College Board's* **National Summary Reports** *on the Advanced Placement program; the sample survey data are from the October Current Population Survey (CPS), conducted by the U.S. Census Bureau.*

The Advanced Placement (AP) program is associated with a demanding academic curriculum and illustrates the desire of high schools to offer college-level courses to high school students. By participating in the AP program, high school students may acquire college credit for their knowledge of college-level subjects. The number of students per 1,000 12th-graders who participated in AP examinations each year shows the level of importance that students, schools, and colleges place on the AP program and how that importance has changed over time.

- Between 1984 and 1997, the number of students who took AP examinations increased dramatically, rising from 50 to 131 students per 1,000 12th-graders (table 1a and figure 1a). The number of examinees increased for both sexes and all racial/ethnic groups during this period.
- In 1984, equal proportions of male and female students took AP examinations (table 1a). Between 1984 and 1997, the number of females who took the examinations rose at a faster rate than did the number of males who took the examinations. In 1997, 145 females compared with 117 males per 1,000 12th-graders took AP examinations.
- In 1997, whites were more likely than blacks or Hispanics to take AP examinations in all subject areas, with the exception of foreign languages (table 1b). Hispanics were at least three times as likely to take a foreign language AP examination as whites.

Table 1a.—Number of U.S. students who took AP examinations (per 1,000 12th-graders), by sex and race/ethnicity: 1984–97

Sex and race/ethnicity	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
Total[1]	50	59	64	66	81	88	100	103	109	117	115	125	131	131
Sex														
Male	50	61	65	68	76	86	101	96	102	108	101	111	117	117
Female	50	58	63	65	85	90	98	111	117	127	129	140	144	145
Race/ethnicity														
White	48	60	62	63	82	92	103	107	112	115	116	125	133	132
Black	8	11	12	13	21	20	26	25	26	31	32	37	32	37
Hispanic	24	21	27	30	48	54	54	67	68	80	63	75	74	85

Table 1b.—Number of AP examinations taken in the United States and the number of examinations with scores of 3 or higher (per 1,000 12th-graders), by subject area, sex, and race/ethnicity: 1997

	Number of AP examinations taken						Number of examinations with scores of 3 or higher					
Sex and race/ethnicity	Social studies	English	Foreign language	Calculus	Computer science	Science	Social studies	English	Foreign language	Calculus	Computer science	Science
Total[1]	59	55	17	33	3	35	35	38	12	20	1	23
Sex[2]												
Male	62	42	13	36	5	41	40	28	9	24	3	28
Female	70	70	23	30	1	34	40	48	17	17	0	20
Race/ethnicity												
White	61	58	12	33	2	34	38	41	7	21	1	22
Black	15	17	3	7	1	8	5	6	1	2	0	2
Hispanic	26	27	41	12	1	12	11	12	36	6	0	5

[1]Included in the total but not shown separately are students from other racial/ethnic groups.

[2]The number of examinations taken by males and females includes a small number of examinations taken by 9th-graders, 10th-graders, college students, and others (9 percent of all students who took AP examinations in 1997).

NOTE: Includes all participation by 11th- and 12th-graders. Included in this analysis are students who participated in the United States only. Students scoring 3 or higher on an AP examination usually receive college credit. Since, on average, AP candidates take more than one examination, there is not a 1:1 ratio between candidates and examinations.

SOURCE: The College Board, Advanced Placement Program, *National Summary Reports* (Copyright © 1984–97 by the College Entrance Examination Board. All rights reserved); and U.S. Department of Commerce, Bureau of the Census, Current Population Survey (CPS), October 1984–97.

Figure 1a.—Number of U.S. students who took AP examinations: 1984–97

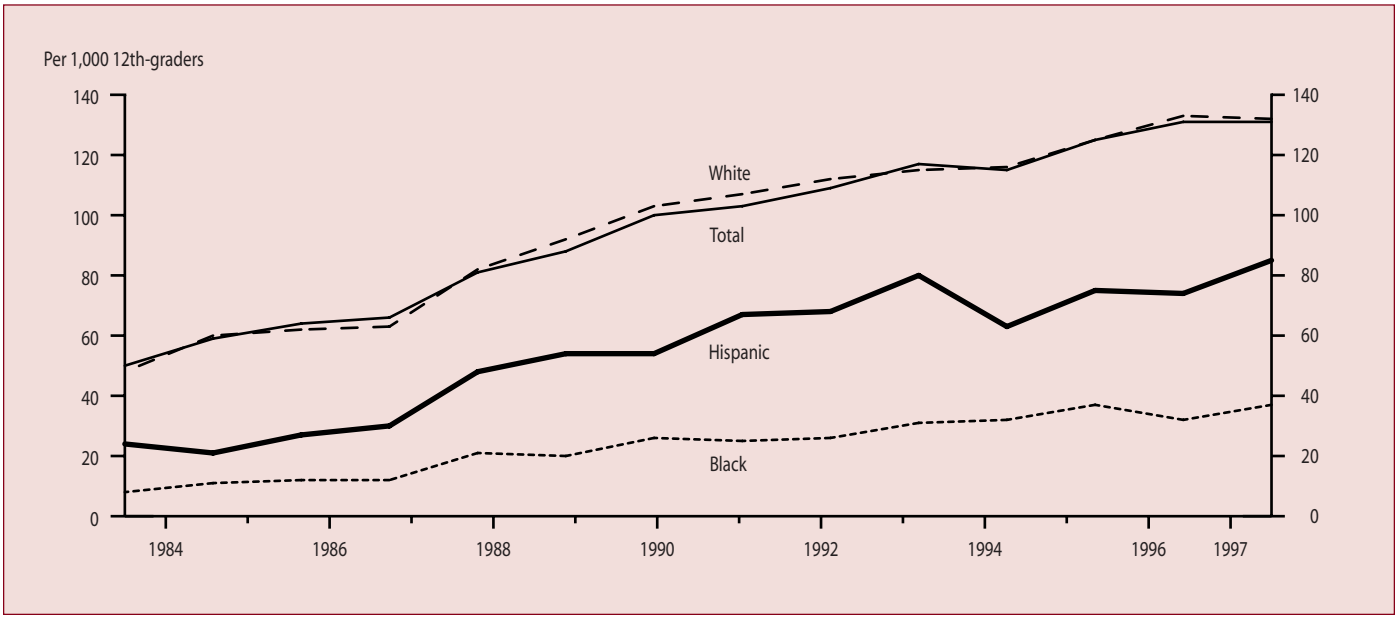


Figure 1b.—Number of AP examinations taken in the United States: 1997

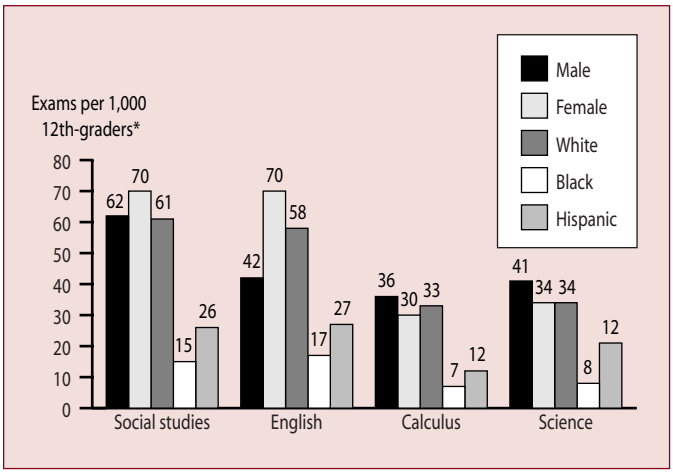
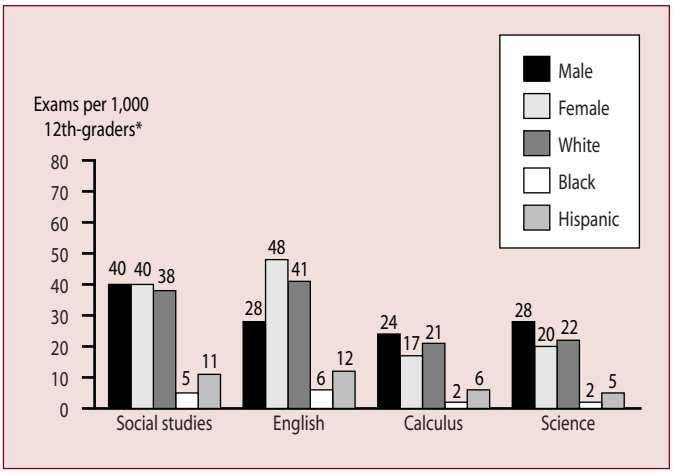


Figure 1c.—Number of examinations with scores of 3 or higher in the United States: 1997



*The number of examinations taken by males and females includes a small number of examinations taken by 9th-graders, 10th-graders, college students, and others (9 percent of all students who took AP examinations in 1997).

NOTE: Includes all participation by 11th- and 12th-graders. Included in this analysis are students who participated in the United States only. Students scoring 3 or higher on an AP examination usually receive college credit. Since, on average, AP candidates take more than one examination, there is not a 1:1 ratio between candidates and examinations.

SOURCE: The College Board, Advanced Placement Program, *National Summary Reports* (Copyright © 1984–97 by the College Entrance Examination Board. All rights reserved); and U.S. Department of Commerce, Bureau of the Census, Current Population Survey (CPS), October 1984–97.

Data sources: The College Board, Advanced Placement Program, *National Summary Reports,* 1984–97; and U.S. Census Bureau, Current Population Survey (CPS), October 1984–97.

For technical information, *see*

National Center for Education Statistics. (1999). *The Condition of Education: 1999* (NCES 1999–022).

For complete supplemental and standard error tables, see either

- the electronic version of *The Condition of Education: 1999 (http://nces.ed.gov/pubs99/condition99),* or
- volume 2 of the printed version (forthcoming): *The Condition of Education: 1999 Supplemental and Standard Error Tables* (NCES 2000–016).

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Students Who Prepare for College and a Vocation

Lisa Hudson and David Hurst

This article was originally published as an Issue Brief. The sample survey data are from High School and Beyond (HS&B), the National Assessment of Educational Progress (NAEP), and the National Education Longitudinal Study of 1988 (NELS:88).

High schools have traditionally focused on preparing students for entry-level jobs *or* for postsecondary education. Recently, federal legislation (e.g., the 1990 and 1998 Perkins Acts) has encouraged a more integrated approach for all students, one that maintains college entry as a viable option while also providing a stronger foundation in work skills and applications. One group of students whose high school course of study may reflect these changes are those who complete both a vocational and a college preparatory curriculum. Currently, little is known about this small group of students. This issue brief focuses on these students, examining their vocational course taking, academic achievement in high school, and postsecondary participation.

Student Participation in Vocational Education and a College Preparatory Curriculum

For this issue brief, public high school graduates were categorized into four curriculum groups: college preparatory only, vocational concentration only, both vocational concentration and college preparatory, and general preparation. *College preparatory* graduates completed a course of study that was consistent with the prevailing entrance requirements at public 4-year colleges.[1] *Vocational concentrators* completed 3 or more credits in a single occupational program area (such as business). Of particular interest for this issue brief are the students who met *both* the college preparatory and vocational concentrator criteria. *General* preparation students met neither the vocational nor the college preparatory requirements.

[1]This included 4 credits in English; 3 credits in mathematics at the algebra 1 level or higher; 2 credits in biology, chemistry, and/or physics; 2 credits in social studies with at least 1 credit in U.S. or world history; and 2 credits in a single foreign language.

Between 1982 and 1994, there was an increase in the percentage of students completing a college preparatory curriculum and a decrease in the percentage completing a vocational concentration (table 1). Reflecting the general trend toward more college preparatory coursework, the percentage of graduates completing *both* a vocational concentration and a college preparatory curriculum increased from 0.6 percent in 1982 to 4.5 percent in 1994. Among all high school graduates who completed a college preparatory curriculum, the percentage who also completed a vocational concentration increased from 7 percent in 1982 to 12 percent in 1994; among all graduates who completed a vocational concentration, the percentage who also completed a college preparatory curriculum increased ninefold, from 2 percent in 1982 to 18 percent in 1994 (not shown in a table).

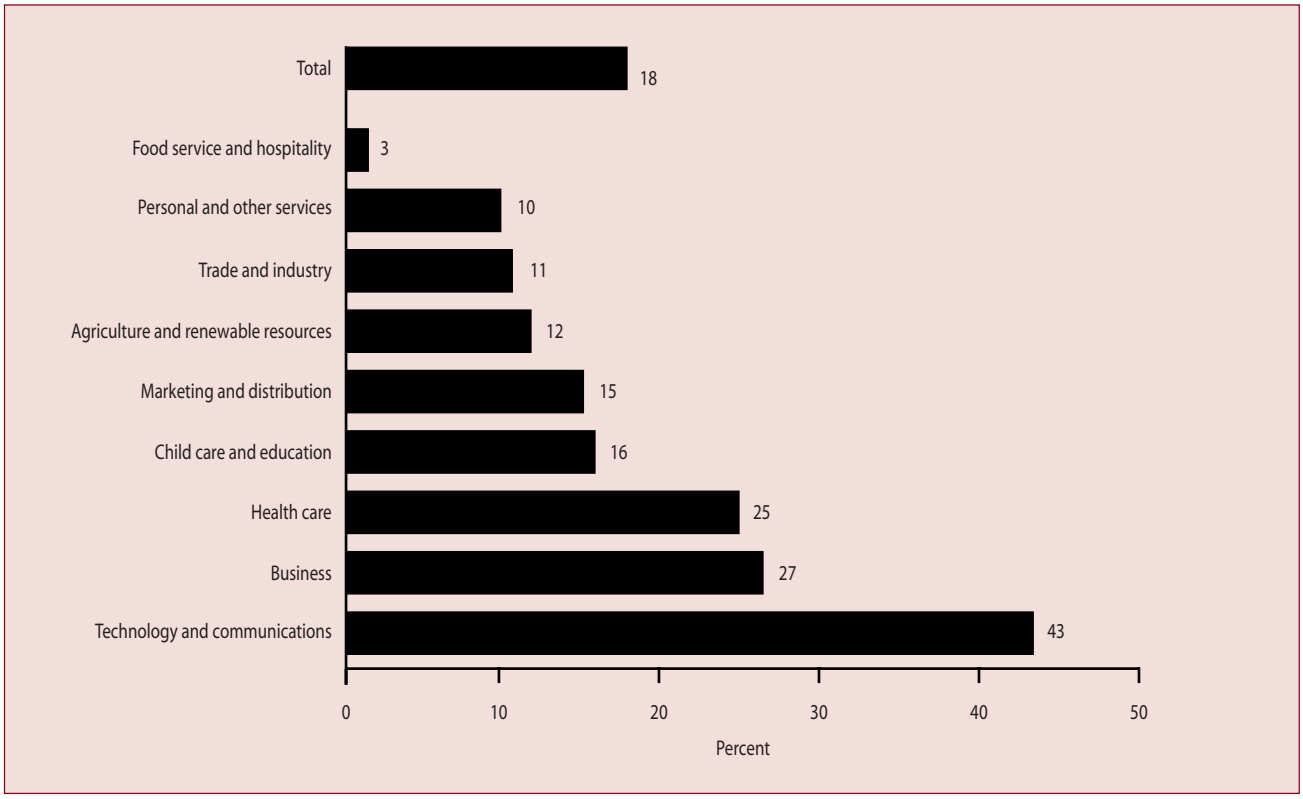
Within specific vocational areas, however, students were not equally likely to have completed a college preparatory curriculum. High school graduates who concentrated in food service and hospitality were less likely than the average vocational concentrator to have also completed a college preparatory curriculum, while students concentrating in technology and communications or in business were more likely than the average vocational concentrator to have also completed a college preparatory curriculum (figure 1). In fact, *43 percent* of the graduates who concentrated in technology and communications also completed a

Table 1.—Percentage distribution of public high school graduates according to curriculum specialization in high school: 1982, 1990, and 1994

Curriculum specialization	1982	1990	1994
Total	100.0	100.0	100.0
College preparatory only	8.1	25.9	32.2
Vocational concentration only	33.1	25.0	20.9
Both vocational concentration and college preparatory	0.6	2.8	4.5
Other/general	58.2	46.3	42.4

SOURCE: U.S. Department of Education, National Center for Education Statistics, (forthcoming) *Vocational Education in the United States: Toward the Year 2000* (NCES 2000–029).

Figure 1.—Percentage of public high school graduates with a vocational concentration who also completed a college preparatory curriculum, by vocational program area: 1994



SOURCE: U.S. Department of Education, National Center for Education Statistics, National Assessment of Educational Progress (NAEP), High School Transcript Study, 1994.

college preparatory curriculum.[2] We do not know enough about technology/communications and business programs to say what about them may particularly attract college preparatory students. But we do know that these are the two vocational program areas in which computers are most extensively used (Office of Educational Research and Improvement 1994, 93). This "high-tech" focus could increase the appeal of these programs to a broader range of students.

Achievement Test Gains

Table 2 compares the test-score gains of students in the different curriculum groups between 8th and 12th grade. To partially control for differences in initial achievement levels, the test-score gains are grouped according to the students' 8th-grade test quartile. The test-score gains for students who completed both a vocational concentration and a college preparatory curriculum were statistically indistinguishable from the gains for those who completed a college preparatory curriculum only, and these students generally outperformed their peers who focused on a vocational concentration only. For instance, among students whose 8th-grade mathematics scores were in the middle two quartiles, those who completed a vocational concentration and a college preparatory curriculum gained an average of 27 points on the mathematics test between 8th and 12th grade. Students completing the college preparatory curriculum only made similar gains (29 points), while the average academic gain of those who had a vocational concentration only was lower (22 points).

Postsecondary Participation Rates

High school graduates who complete both a vocational concentration and a college preparatory curriculum may do so in an effort to keep their education and employment options open. These students should be prepared to enter a job in the occupational field in which they took vocational

[2] In the current NCES secondary school course taxonomy, all computer courses are classified as vocational within the technology and communications program area. In earlier taxonomies, computer classes taught in a mathematics department were classified as academic.

Table 2.—Average test-score gains between 8th and 12th grade in mathematics and reading for 1992 public high school graduates according to 8th-grade mathematics and reading test-score quartiles, by curriculum specialization in high school

Curriculum specialization	Lowest quartile		Middle two quartiles		Highest quartile	
	Mathematics	Reading	Mathematics	Reading	Mathematics	Reading
Total	20.8	16.6	25.1	19.5	29.2	23.0
College preparatory only	27.6	19.9	29.2	21.9	30.5	24.4
Vocational concentration only	19.0	15.5	22.3	17.6	26.4	19.9
Both vocational concentration and college preparatory	—	19.9	27.4	20.5	29.8	23.6
Other/general	20.7	16.7	24.3	19.0	27.5	21.7

—Too few sample observations for a reliable estimate.

SOURCE: U.S. Department of Education, National Center for Education Statistics, (forthcoming) *Vocational Education in the United States: Toward the Year 2000* (NCES 2000–029). The achievement tests were conducted as part of the National Education Longitudinal Study of 1988 (NELS:88/92).

courses or to enroll in a postsecondary institution. However, based on their enrollments 2 years after graduation, most of these students appear to be college bound.

Among 1992 public high school graduates, those who completed a vocational concentration and a college preparatory curriculum were about as likely to have enrolled in a postsecondary institution by 1994 as their exclusively college preparatory peers (90 and 94 percent, respectively), and much more likely to have enrolled than students who completed a vocational concentration only (52 percent) or who had a general education preparation (70 percent) (table 3).

The public 4-year enrollment rates of high school graduates who completed both a vocational concentration and a college preparatory curriculum were also similar to those of high school graduates who completed a college preparatory curriculum only (57 and 54 percent). These public 4-year enrollment rates were higher than those for students who completed a vocational concentration only (24 percent) or had a general education preparation (34 percent). High school graduates who completed both a vocational concentration and a college preparatory curriculum were also about as likely as college preparatory-only graduates to enroll in a public 2-year institution and were less likely to do so than students who completed a vocational concentration only or who had a general education preparation.

Conclusion

The percentage of high school graduates who complete *both* a vocational concentration and a college preparatory curriculum is small, but increased markedly between 1982 and 1994. High school graduates with concentrations in vocational areas that use computers most extensively, such as business and technology/communications, generally appeared to be the most likely to have also completed a college preparatory curriculum. The academic achievement gains and postsecondary participation rates of high school graduates who completed both a vocational concentration and a college preparatory curriculum were similar to those of students who completed a college preparatory curriculum only, and generally higher than those of students who completed a vocational concentration only.

While students who complete both a vocational concentration and a college preparatory curriculum tend to be college bound, these findings suggest that they may increasingly find it useful to take courses in a vocational field. At the same time, other analyses have found that the academic course taking of all vocational concentrators has increased (Levesque et al. forthcoming). These course-taking trends suggest that students are increasingly integrating vocational and academic learning at the course level, and that students in the high-tech fields of technology/communications and business are particularly likely to follow the broader course of study envisioned by recent federal legislation.

References

Levesque, K., Lauen, D., Teitelbaum, P., Alt, M., and Librera, S. (forthcoming). *Vocational Education in the United States: Toward the Year 2000* (NCES 2000–029). U.S. Department of Education. Washington, DC: U.S. Government Printing Office.

Office of Educational Research and Improvement. (1994). *National Assessment of Vocational Education Final Report, Volume II: Participation in and Quality of Vocational Education*. U.S. Department of Education. Washington, DC: Author.

Table 3.—Percentage of 1992 public high school graduates enrolled in a postsecondary institution by 1994, and of those enrolled, percentage distribution according to type of first institution, by curriculum specialization in high school

Curriculum specialization	Enrolled	Of those enrolled, type of first institution			
		Public 4-year	Private, not-for-profit 4-year	Public 2-year	Other*
Total	74.3	41.0	17.5	35.5	6.1
College preparatory only	93.6	53.8	26.7	17.3	2.1
Vocational concentration only	51.8	23.7	6.5	57.0	12.8
Both vocational concentration and college preparatory	89.9	57.1	15.5	23.7	3.6
Other/general	70.3	33.5	13.0	46.1	7.4

*Includes private, not-for-profit 2-year; public vocational/technical; and private, for-profit institutions.

NOTE: Percentages may not add to 100 due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, (forthcoming) *Vocational Education in the United States: Toward the Year 2000* (NCES 2000–029).

Data sources: High School and Beyond (HS&B), Sophomore Cohort, High School Transcript Study, 1982; National Assessment of Educational Progress (NAEP), High School Transcript Study, 1990 and 1994; and National Education Longitudinal Study of 1988, Second Follow-up and High School Transcript Study (NELS:88/92).

For technical information, see the following report:

Levesque, K., Lauen, D., Teitelbaum, P., Alt, M., and Librera, S. (forthcoming). *Vocational Education in the United States: Toward the Year 2000* (NCES 2000–029).

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Predicting the Need for Newly Hired Teachers in the United States to 2008–09

William J. Hussar

***This article was excerpted from the Research and Development Report of the same name. The sample survey and universe data are from the NCES Schools and Staffing Survey (SASS), Teacher Follow-up Survey (TFS), and Common Core of Data (CCD), as well as from the NCES report* Projections of Education Statistics to 2008.**

Research and Development Reports are intended to

- Share studies and research that are developmental in nature.
- Share results of studies that are on the cutting edge of methodological developments.
- Participate in discussions of emerging issues of interest to researchers.

These reports present results or discussions that do not reach definitive conclusions at this point in time, either because the data are tentative, the methodology is new and developing, or the topic is one on which there are divergent views. Therefore, the techniques and inferences made from the data are tentative and are subject to revision.

Introduction

An increased need for newly hired teachers is expected over the next decade. Depending on the assumptions made, for example, this report projects that from 1.7 million to 2.7 million newly hired public school teachers will be needed by 2008–09. The report examines a model for projecting the need for newly hired teachers in both public and private schools and discusses results based on the model.

Background

Each year, over 150,000 public school teachers are hired to meet the ongoing demands of replacing teachers who retire or who have left the profession, filling new positions in growing school districts, or addressing special needs or meeting new requirements (table A). In addition to these extensive ongoing demands for additions to the teaching force, many schools and school districts have faced the prospect of a wave of retirements as the large numbers of teachers hired during the baby boom enrollment years approach retirement age.

As a group, elementary and secondary teachers are significantly older than the general labor force. The median age of public school teachers in 1993–94 was 44, compared with a median age of 38 for all workers in October 1993 (Bureau of the Census 1993). The burden of replacing large numbers of retiring teachers comes at a particularly challenging time, as enrollments in elementary and secondary schools are projected to set records each year well into the next decade (Gerald and Hussar 1998). Over the next 10 years, an unusually large need for newly hired teachers is expected, both to replace teachers as they retire and to meet the needs of increasing enrollments. These newly hired teachers will include both people who are new to the profession and those who are returning to teaching after some time away from the profession.

Content of this report

Using an algebraic model based on teacher demographic data, this report examines the need for newly hired teachers for the period from 1998–99 to 2008–09. The model is used to predict the impact of the existing age distribution on the composition of the teaching force and to estimate the number of newly hired teachers that will be needed over the forecast period.

Several alternative projections are produced for the number of newly hired school teachers in both public and private schools at the national level. The alternative projections are based on differing assumptions concerning the rates at which teachers of various ages will continue teaching from one year to the next and the total number of teachers that will be needed each year.

One key assumption of this analysis is that continuation rates of teachers, by age group, remain constant over time. This assumption is required as there are not enough observations to develop an econometric model for continuation rates. A sensitivity analysis of this assumption was conducted by examining results using three different continuation rates. Similarly, the report examines results using three different scenarios for total number of teachers.

The report does not analyze the issue of supply relative to demand of teachers. Instead, it is assumed that there will be enough supply to meet the demand, which reflects historical precedent. However, the report does include some discussion of how supply and demand forces might affect the results.

Table A.—Full-time-equivalent (FTE) teachers, newly hired FTE teachers, and the percentage of FTE teachers that are newly hired, by control: 1988–89, 1991–92, and 1994–95

	Number (in thousands)		Percent
	Teachers	Newly hired teachers	Newly hired teachers
Public school teachers			
1988–89[1]	2,323	174	7.5
1991–92[1]	2,432	156	6.4
1994–95[2]	2,552	220	8.6
Private school teachers			
1988–89[1]	345	38	10.9
1991–92[1]	355	43	12.2
1994–95[2]	374	56	15.0

[1]The number of newly hired public school teachers was calculated by (1) using that year's Teacher Follow-up Survey (TFS) for the number of people who had been either full-time or part-time public school teachers the previous year and who had left teaching in public schools; (2) multiplying that number by the previous year's ratio of FTE public school teachers to full-time and part-time public school teachers; and (3) adding that number to the net change in FTE public school teachers. The number of newly hired private school teachers was calculated using a similar method.

[2]The number of newly hired public school teachers was calculated by (1) for each age, multiplying the number of full-time and part-time teachers from the 1993–94 Schools and Staffing Survey (SASS) by 1 minus the age-specific continuation rate from the 1994–95 TFS; (2) summing those numbers by age; (3) multiplying that number by the previous year's ratio of FTE public school teachers to full-time and part-time public school teachers; and then (4) adding that number to the net change in FTE public school teachers. The number of newly hired private school teachers was calculated using a similar method.

SOURCE: U.S. Department of Education, National Center for Education Statistics: Schools and Staffing Survey (SASS), 1993–94; Teacher Follow-up Survey (TFS), 1988–89, 1991–92, and 1994–95; and unpublished data tabulations. (Originally published as table 1 on p. 29 of the complete report from which this article is excerpted.)

The Newly Hired Teachers Model

The Newly Hired Teachers Model projects the total number of newly hired teachers that will be needed over time to replace teachers leaving the profession because of retirement and other reasons, as well as to instruct additional students that are expected to enter the system.

The key component of this model is the aging of the teacher force over time, based on the counts of teachers of each age from the 1993–94 Schools and Staffing Survey (SASS). The model estimates the number of continuing teachers, by age, through the use of age-specific continuation rates from SASS. Each year, the model brings just enough newly hired teachers into the teaching force so that the sum of the continuing teachers and the newly hired teachers equals a projected number for total teachers. Calculating the number of newly hired teachers (new teacher hires) summed over the forecast period is the focus of this study.

Data Sources and Assumptions

The Newly Hired Teachers Model requires four data items: (1) the number of teachers by age (age distribution) for a recent year; (2) the total number of teachers for each year under study, including both historical years and forecast years; (3) an estimate of the continuation rate for each age; and (4) an estimate of the age distribution of the newly hired teachers. The main sources for these data are the 1993–94 SASS and the 1994–95 Teacher Follow-up Survey (TFS), although other sources such as the Common Core of Data (CCD) and *Projections of Education Statistics to 2008* (Gerald and Hussar 1998) are used as well.

The analysis was conducted at the national level only, as the TFS was not designed for state-level analysis. Thus, continuation rates for each state could not be calculated due to sample size.

Teacher age distribution for a recent year

The model requires an age distribution to use as a starting point for the aging of the teacher force over the forecast period. The total number of public and private school teachers, by age, was obtained from the 1993–94 SASS. The median age was 44 for all public school teachers and 42 for private school teachers. For the nation as a whole, there were more public school teachers age 47 than any other age (figure A).

The SASS age distribution is for a headcount of full- and part-time teachers. Because the number of teachers forecast for each of the later years is for full-time-equivalent (FTE) teachers, however, the number of FTE teachers by age for 1993–94 is required. For modeling purposes, the age distribution of FTE teachers was assumed to be the same as the age distribution of teachers using the headcount

Figure A.—Age distribution of full-time and part-time public school teachers: 1993–94

SOURCE: U.S. Department of Education, National Center for Education Statistics, Schools and Staffing Survey (SASS), 1993–94. (Originally published as figure 3 on p. 19 of the complete report from which this article is excerpted.)

number. This assumption seems reasonable both because the age distributions of full-time teachers and part-time teachers were found to be similar in 1993–94 and because the relatively small number of part-time teachers would result in minimal impact on the model in any case.

Total number of teachers for each year under study

Three different assumptions were used to produce alternative scenarios for the numbers of public and private school teachers that will be needed for each year under study:

Scenario 1. For the first scenario, the pupil/teacher ratio was assumed to remain constant at 1995–96 values. The total number of teachers needed each year was estimated by dividing the appropriate enrollment projections by the pupil/teacher ratio. Greatest emphasis was given to the results from scenario 1, although results from the other scenarios were analyzed.

Scenario 2. For the second scenario, it was assumed that for each year from 1996–97 to 2008–09, the number of teachers would remain at 1995–96 levels despite increasing enrollments.

Scenario 3. For the third scenario, the national teacher projections from *Projections of Education Statistics to 2008* (Gerald and Hussar 1998) were used. This method gave the highest figures for newly hired teachers needed because it included an assumption of some decline in the pupil/teacher ratio.

Teacher continuation rates by age

The model calls for a constant set of age-specific continuation rates to be applied to each year of the forecast period. The TFS provides three sets of continuation rates for recent years: from 1993–94 to 1994–95, from 1990–91 to 1991–92, and from 1987–88 to 1988–89. Each set includes separate continuation rates for teachers who continued teaching in public schools and for those who continued teaching in private schools.

The 1993–94 to 1994–95 continuation rates, obtained from the 1994–95 TFS, are the most recent available. Most of the results presented in this report were produced using the 1993–94 to 1994–95 rates, but the sensitivity of the model was examined by using the other sets of rates to produce alternative projections.

Comparisons of forecasts made using all three sets of continuation rates suggest that the model is sensitive to changing continuation rates. While there are few statistically significant differences in continuation rates over time, these rates apply to the entire count of teachers each year. It is not surprising, therefore, that continuation rates are by far the most sensitive facet of the model.

First-time teachers and returning teachers have lower continuation rates than those of the same age who had been

teaching the previous year. If the proportion of new teachers in the teaching force grows over time, it will tend to push continuation rates downward.

Age distribution of newly hired teachers

The fourth type of data needed for the model is the age distribution of the newly hired teachers during each year under study. As with the continuation rates, usable data are available for both public school teachers and private school teachers. The most recent actual age distribution of newly hired teachers, obtained from the 1993–94 SASS, was used as the estimated distribution for each year.

An important assumption is that in the forecast period the age distribution of newly hired teachers remains similar to that in the 1993–94 SASS. Comparison of the 1993–94 SASS with the 1987–88 SASS and the 1990–91 SASS showed that the age distributions for these years were similar, though not identical. One factor that may change the age distribution over time is the aging of the baby boom generation. As this generation retires, there may be relatively fewer people in their forties and fifties who become newly hired teachers, thus pushing the average age of newly hired teachers lower. However, programs to encourage the rehiring of retirees may partially diminish this effect.

Results for Public Schools

Using scenario 1 and teacher continuation rates from 1993–94 to 1994–95, the model projects that approximately 2.4 million newly hired public school teachers* will be needed from 1998–99 to 2008–09. These newly hired teachers will be needed to replace teachers who retire or leave the profession for other reasons and to keep the pupil/teacher ratio constant as total enrollment increases.

*In addition to first-time teachers, newly hired public school teachers include those returning to teaching after time away from the profession and those moving from private to public schools.

Effect of alternative continuation rates and scenarios on number of newly hired public school teachers

The combination of three scenarios for total number of teachers and three teacher continuation rates produces a relatively wide range of estimates, from about 1.7 to 2.7 million newly hired teachers (table B).

Under scenario 1, using the most recent continuation rates (from 1993–94 to 1994–95), the model projects that 2.4 million newly hired teachers will be needed. Under the same scenario, but using continuation rates from 1990–91 to 1991–92, approximately 450,000 fewer newly hired teachers are predicted to be needed (19 percent lower than with the most recent continuation rates). If the 1987–88 to 1988–89 rates are used, approximately 350,000 fewer teachers will be needed (14 percent lower than with the most recent rates). These relatively large differences in the forecasts occur because of the cumulative impact of the differences in continuation rates when they are applied to the entire population of teachers over each year of the forecast period. The numbers of newly hired teachers needed are lower using the older sets of continuation rates because the older sets of continuation rates are generally higher.

Even for the same set of continuation rates, there is a considerable range in the estimates. Using the most recent set of continuation rates, for example, the forecast of 2.4 million newly hired teachers needed by 2008–09 under scenario 1 is 10 percent greater than the 2.2 million newly hired teachers projected under scenario 2, but 12 percent less than the 2.7 million teachers projected under scenario 3.

Table B.—Number of newly hired public school teachers needed for the 11 years from 1998–99 to 2008–09, by continuation rate used and teacher total assumption

Scenario number	Continuation rate from 1987–88 to 1988–89	Continuation rate from 1990–91 to 1991–92	Continuation rate from 1993–94 to 1994–95
Scenario 1 (constant pupil/teacher ratio)	2.1 million	1.9 million	2.4 million
Scenario 2 (constant number of teachers)	1.8 million	1.7 million	2.2 million
Scenario 3 (*Projections of Education Statistics to 2008*—declining pupil/teacher ratio)	2.3 million	2.2 million	2.7 million

SOURCE: U.S. Department of Education, National Center for Education Statistics: Schools and Staffing Survey (SASS), 1993–94; Teacher Follow-up Survey (TFS), 1988–89, 1991–92, and 1994–95; and unpublished data tabulations. (Originally published as a text table on p. 9 of the complete report from which this article is excerpted.)

Changing age distribution of public school teachers

Another way to compare results for the alternative scenarios is to look at projected age distributions. Since the estimated numbers of public school teachers at each age in 2008–09 look very much alike for each of the three scenarios and each of the three sets of continuation rates, this discussion concentrates on the results for scenario 1 and the most recent set of continuation rates.

The age distribution of FTE teachers is predicted to flatten over time, with a more equal distribution of teachers in each age group. Specifically, the proportion of teachers who are in their forties is expected to decrease over time, while other age groups, which had been underrepresented, are expected to increase. Yet, even in 2008–09, the model projects that a sizable number of the teachers who had been in their forties in 1993–94 will still be teaching. The model forecasts that there will be more public school teachers in their late fifties in 2008–09 than there were in 1993–94.

Retirement of public school teachers

Under scenario 1, approximately 759,000 teachers will retire from 1998–99 to 2008–09. As there are fewer teachers each year in scenario 2 compared with scenario 1, there will be fewer teachers who will be retiring (745,000). Conversely, as there are more teachers in scenario 3, there will be more teachers who will be retiring (765,000). These numbers of retiring teachers are based on the most recent continuation rates, but the pattern is similar using the alternative rates.

Results for Private Schools

Using the most recent set of continuation rates, scenario 1 projects that some 568,000 newly hired private school teachers will be needed from 1998–99 to 2008–09. The comparable number is somewhat lower under scenario 2 (524,000) and somewhat higher under scenario 3 (620,000). The range of projections using alternative continuation rates was small compared with the range for newly hired public school teachers: Under scenario 1, the projected numbers of newly hired private school teachers ranged from 2 percent lower (using the 1990–91 to 1991–92 rates) to 5 percent higher (using the 1987–88 to 1988–89 rates) than the number calculated using the most recent rates. A forecast of age distribution predicts that the numbers of both older and younger private school teachers will increase, while the number of teachers in their forties will fall.

Comparison of Results With Bureau of Labor Statistics Projections

Another source of national-level estimates of newly hired elementary and secondary school teachers is the U.S. Department of Labor's Bureau of Labor Statistics (BLS). BLS forecasts annual average job openings for elementary and secondary school teachers at approximately 400,000 per year from 1996 to 2006 (BLS 1998, table 1), for a total of approximately 4.5 million newly hired teachers over this 11-year period. The BLS total is significantly greater than the total of 3.3 million newly hired teachers projected for the same period under scenario 3, which yields this study's highest projections.

One reason for the larger BLS projections is that the BLS definition of teacher includes those working at all preprimary institutions and training centers in addition to those working at traditional elementary and secondary schools. The broader BLS definition results in a greater overall number of teachers than the definition used in this study (3.8 million versus 3.0 million in 1996), and BLS inclusion of daycare staff may also contribute to lower continuation rates. A second reason for the larger BLS projections is that BLS forecasts greater growth in the number of teachers from 1996 to 2006 (21.1 percent from BLS versus 12.7 percent from scenario 3). Again, some of the growth projected by BLS would occur outside traditional elementary and secondary schools.

Despite differences in definitions and results, the projections in this report and the BLS projections both suggest a need for large numbers of newly hired teachers over the next decade.

Conclusions

If the pupil/teacher ratio remains constant, about 2 million newly hired public school teachers and about 500,000 newly hired private school teachers will be needed during the 11-year period from 1998–99 to 2008–09. Some of the alternative assumptions and scenarios result in higher forecasts, particularly scenario 3, which assumes some decline in the pupil/teacher ratio. Data from BLS also indicate a need for large numbers of newly hired teachers.

In the model used for this report's projections, the teacher continuation rate is a critical factor that can be influenced by supply and demand forces. These forces, in turn, are

affected by both economic conditions and education policies. For example, a good economy tends to decrease continuation rates by creating greater opportunities for alternative employment. If faced with an aging teacher force and an inadequate supply, however, school districts or state education agencies could enact incentives to delay retirements, thus increasing continuation rates and reducing the demand for new hires, at least temporarily. Increases in salaries or other benefits could be used to help retain teachers who might otherwise leave the profession. Such policies could have a sizable impact on the number of newly hired teachers needed. Also, an economic downturn might make teaching positions more attractive because of their perceived stability.

Supply and demand forces also can influence the model's important, but less critical, assumption regarding the stable age distribution of the new teachers. Districts could enact policies to recruit older people into the teaching profession. The supply of qualified teachers available could be adjusted by changing teacher certification requirements to favor either new or less recent college graduates. These efforts would have an impact on the age distribution of newly hired teachers, which would later affect the teacher demand.

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Data sources: The Schools and Staffing Survey (SASS), 1993–94; Teacher Follow-up Survey (TFS), 1988–89, 1991–92, and 1994–95; Common Core of Data (CCD), selected years; and *Projections of Education Statistics to 2008* (NCES 98–016).

For technical information, see the complete report:

Hussar, W.J. (1999). *Predicting the Need for Newly Hired Teachers in the United States to 2008–09* (NCES 1999–026).

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To obtain the complete report (NCES 1999–026), call the toll-free ED Pubs number (877–433–7827), visit the NCES Web Site *(http://nces.ed.gov),* or contact GPO (202–512–1800).

Service-Learning

Service-Learning and Community Service in K–12 Public Schools

Rebecca Skinner and Chris Chapman

This article was originally published as a Statistics in Brief report. The sample survey data are from the "National Student Service-Learning and Community Service Survey," conducted through the NCES Fast Response Survey System (FRSS). Technical notes and standard error tables from the original report have been omitted.

Summary of Key Findings

The National Center for Education Statistics (NCES) of the U.S. Department of Education used the Fast Response Survey System (FRSS) to conduct the "National Student Service-Learning and Community Service Survey" in spring 1999. This is the first survey to provide reliable national estimates of the percentage of public elementary, middle, and high[1] schools incorporating service-learning into their course curriculum; it also provides the most recent data on school engagement in community service. The survey findings include the following:

- Sixty-four percent of all public schools, including 83 percent of public high schools, had students participating in community service activities recognized by and/or arranged through the school.
- Fifty-seven percent of all public schools organized community service activities for their students.
- Thirty-two percent of all public schools, including nearly half of all high schools, organized service-learning as part of their curriculum.
- Schools with service-learning tended to have gradewide service-learning, service-learning in individual courses that were not part of a broader grade- or schoolwide initiative, or disciplinewide service-learning programs.
- Eighty-three percent of schools with service-learning offered some type of support to teachers interested in integrating service-learning into the curriculum, with most providing support for service-learning training or conferences outside of school.
- Most schools with service-learning cited strengthening relationships among students, the school, and the community as key reasons for practicing service-learning.

Background

Incorporating service-learning into K–12 schools is a growing area of interest to educators. Like community service, service-learning requires students to serve their communities. However, service-learning takes community service one step further by incorporating the service experiences of students directly into their school work. Service-learning has long been viewed as a possible means of improving education, with roots stretching back to the late 19th and early 20th centuries. For example, John Dewey, an advocate of service-learning, believed that students would learn more effectively and become better citizens if they engaged in service to the community and had this service incorporated into their academic curriculum (Dewey 1916). Though first suggested over a century ago, the incorporation of service-learning into the curriculum did not begin in earnest until the early 1970s, and it has only been in the last decade that extensive reform efforts have emerged.

Legislative reform over the past 10 years has set in motion a growing national emphasis on increasing students' involvement with their local communities and linking this service to academic study through service-learning. The National and Community Service Act of 1990, through the Serve America program, and the National and Community Service Trust Act of 1993, through the Learn and Serve America program, provided support for service-learning activities in elementary and secondary schools (Corporation for National Service 1999). In addition, through programs such as AmeriCorps, the federal government has offered opportunities to high school graduates, college students, and recent college graduates to serve local communities in exchange for stipends and payment of education loans or money toward future postsecondary education. Both Learn and Serve America and AmeriCorps are administered by the Corporation for National Service, a federal organization also created by the National and Community Service Trust Act of 1993.

Two previous studies, one looking at high schools in 1984 and the other looking at 6th- through 12th-grade students in 1996, provide tentative evidence that service-learning has become more pervasive since the early 1980s. Based on a study conducted in 1984, researchers reported that 27 percent of all high schools (public and private) in the United States offered some type of community service and 9 percent of all high schools offered service-learning, defined as curriculum-related service programs (Newmann and Rutter 1985). The 1996 National Household Education

[1]High schools include high schools and combined schools. Combined schools are schools that contain both elementary and secondary grades. The highest grade in these schools must be at least 9th grade.

Survey (NHES), conducted by NCES, found that 49 percent of all students in grades 6–12 participated in community service (Nolin, Chaney, and Chapman 1997). Of the students participating in community service, 56 percent reported that their community service was incorporated into the curriculum in some way.

Definitions

The definition of service-learning employed for this study differs from definitions of service-learning used on past surveys. This is not unusual, as noted by the University of Colorado, a leader in the collection and promotion of information about service-learning: "Definitions of service-learning vary considerably among those who embrace it" (University of Colorado 1998). Kraft (1996) presents a similar argument in his discussion of the practice of service-learning. He states that some agreement has been achieved on the definition of service-learning in recent years, but that practices do not always match the definition. For these reasons, specific definitions of community service and service-learning were developed in cooperation with the Corporation for National Service for use on the "National Student Service-Learning and Community Service Survey." The following definitions were provided to respondents to help clarify the definitions of both terms:

Community service. For the purposes of this survey, student community service is defined as community service activities that are non-curriculum-based and are recognized by and/or arranged through the school. The community service:

- May be mandatory or voluntary;
- Generally does not include explicit learning objectives or organized reflection or critical analysis activities; and
- May include activities that take place off of school grounds or may happen primarily within the school.

Community service activities may be carried out as schoolwide events, separately organized school programs, or projects conducted by school-sponsored clubs (e.g., Girls/Boys Clubs, National Honor Society). Examples of service activities could include cleaning up a local park, visiting the elderly, or collecting and distributing food to those in need.

Service-learning. For the purposes of this survey, service-learning is defined as curriculum-based community service that integrates classroom instruction with community service activities. The service must:

- Be organized in relation to an academic course or curriculum;
- Have clearly stated learning objectives;
- Address real community needs in a sustained manner over a period of time; and
- Assist students in drawing lessons from the service through regularly scheduled, organized reflection or critical analysis activities, such as classroom discussions, presentations, or directed writing.

Example of service-learning: Students in a middle school science class studying the environment help preserve the natural habitat of animals living at a local lake. Through classroom studies, the students learn about the environment. The students keep the area around the lake clean, post signs providing information to the public, and study soil and water composition as well as the impact of industrial development on wildlife. Throughout the project, students write about their experiences in journals and participate in class discussions about the project and its effect on their lives and the local community.

These definitions appeared on the cover page of the survey and were incorporated into questions that asked if the school had students participating in community service (question 1) and/or had students participating in service-learning (question 6). Some schools may have interpreted the definition of service-learning more loosely than as stated. In addition, some states, school districts, and schools supporting community service and/or service-learning have established definitions different from the ones used for the survey. This may have created confusion for respondents who have become accustomed to labeling the service activities in their school as either community service or service-learning. They may have inadvertently disregarded the definitions established for this survey in favor of the definitions they have been using. In cases where response inconsistencies were noted, follow-up calls were made to the schools to resolve those issues. On the basis of their responses, it was determined that the majority of schools that reported having students participating in some form of service-learning did have students participating in curriculum-related service activities distinct from community service.

About the Survey

After nearly a decade of emphasis on increasing student involvement in service activities, measuring the extent to which service-learning and community service occur in K–12 public schools is an important step in assessing their overall effect. The "National Student Service-Learning and Community Service Survey" was designed to meet this need for data, focusing particularly on service-learning. This report seeks to answer several important questions:

- What percentage of schools have students participating in community service?
- What percentage of schools organize community service activities for students?
- What percentage of schools have students participating in service-learning?
- In what ways are schools implementing service-learning?
- What types of support are available for teachers interested in integrating service-learning into their course curriculum?
- What are schools' main reasons for encouraging student participation in service-learning?
- What special grants or special funding are available to support service-learning or community service?

Prior to this survey, there were no reliable national data available to indicate the prevalence of service-learning in elementary or middle schools. It was assumed, based on very limited information, that the percentage of elementary schools with service-learning was negligible and that the percentage of middle schools with service-learning was low. Consequently, a sample was drawn that included disproportionately more high schools than elementary or middle schools. It turns out, however, that significant numbers of elementary and middle schools are engaged in service-learning. Thus, while the sample is nationally representative and unbiased, the design is statistically inefficient for some overall estimates that include all three instructional levels (elementary, middle, and high). Therefore, while reported differences between subgroups may appear to be large, the large standard errors render the apparent differences not statistically significant. For example, while differences between schools with students participating in community service activities based on the percentage of minority enrollment may appear to be large, none of the comparisons are statistically significant.

Data have been weighted to national estimates of regular public schools. All comparative statements made in this report have been tested for statistical significance through chi-squared tests or *t*-tests adjusted for multiple comparisons using the Bonferroni adjustment and are significant at the .05 level or better.

Community Service

Overall, 64 percent of all public schools in the United States had students participating in community service activities recognized by and/or arranged through the school. A higher percentage of high schools (83 percent) than elementary schools (55 percent) or middle schools (77 percent) had students engaged in community service activities (table 1). Middle schools were also more likely to have students participating in community service activities than were elementary schools. There were also differences in community service participation by school size, with larger schools (i.e., those enrolling 1,000 or more students) more likely to have students participating in community service activities than schools with lower enrollments.

Schools' use of community service also varied by the economic background of students. Using the Title I threshold for schools that qualify as schoolwide Title I programs (U.S. Department of Education 1999), schools where 50 percent or more of the student body were eligible for free or reduced-price lunch were compared to those where fewer students qualified. Schools with less than 50 percent of their students eligible for free or reduced-price lunch were more likely to have students participating in community service activities than those that had higher percentages of students eligible for free or reduced-price lunch.

One measure of school commitment to community service activities is whether the school organizes community service activities in which students can participate. Fifty-seven percent of all public schools organized community service activities for their students (table 1). This represented 89 percent of schools whose students were participating in community service activities (not shown in table). Middle schools (71 percent) and high schools (71 percent) were more likely to organize community service activities than were elementary schools (49 percent) (table 1). In addition, schools with less than 50 percent of their students eligible for free or reduced-price lunch were also more likely to organize community service activities than schools with 50 percent or more of their students eligible for free or reduced-price lunch.

Service-Learning

Service-learning in K–12 schools combines elements of community service with classroom instruction. The service performed by students must be organized in relation to the curriculum, have clearly stated learning objectives, meet real community needs, and include participant reflection or critical analysis of the service activities. The percentage of public schools nationwide with service-learning was 32 percent (table 1), which means that about half as many schools had service-learning as had community service. By

Table 1.—Percent of public schools that have students participating in community service, arrange community service opportunities for students, and have students participating in service-learning, by school characteristics: Academic year 1998–99

School characteristic	Total	Percent with community service	Percent organizing community service activities	Percent with service-learning
All public schools	79,750	64	57	32
Instructional level				
Elementary	49,350	55	49	25
Middle	14,398	77	71	38
High*	16,002	83	71	46
Size of enrollment				
Less than 300	19,842	59	53	27
300 to 999	51,876	65	57	31
1,000 or more	8,022	77	69	48
Type of locale				
City	20,742	66	61	36
Urban fringe	26,579	63	57	27
Town	11,614	65	59	43
Rural	20,814	64	53	27
Geographic region				
Northeast	16,121	67	64	30
Southeast	15,927	63	56	35
Central	22,442	67	58	32
West	25,259	61	53	30
Percent minority enrollment				
Less than 6 percent	25,925	67	58	31
6 to 20 percent	16,965	65	56	31
21 to 49 percent	18,208	72	67	36
50 percent or more	17,798	54	50	29
Percent of students eligible for free or reduced-price lunch				
Less than 50 percent	50,975	69	63	36
50 percent or more	15,409	50	43	23

*High schools include high schools and combined schools. Combined schools are schools that contain both elementary and secondary grades. The highest grade in these schools must be at least 9th grade.

NOTE: Because of rounding or missing data, detail may not sum to total.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "National Student Service-Learning and Community Service Survey," FRSS 71, 1999.

instructional level, 25 percent of elementary schools, 38 percent of middle schools, and 46 percent of all high schools had students participating in service-learning.

There were also differences in the percentage of schools with service-learning based on the percentage of students eligible for free or reduced-price lunch. Schools with less than 50 percent of their students eligible for free or reduced-price lunch were more likely to have service-learning than were schools with 50 percent or more of their students eligible for free or reduced-price lunch.

Implementation of service-learning

Schools can implement service-learning programs in a number of different ways. They range from schoolwide service-learning, which involves every student in the school, to gradewide service-learning, which involves all students in one or more grades, to service-learning as part of an individual course. Of schools with service-learning, 79 percent reported implementing service-learning in two or more ways (not shown in table). Irrespective of how service-learning is implemented, a program may be mandatory and/or voluntary in the same school. For example, a school might require that all 10th-graders participate in service-learning, while allowing students in other grades the option of participating.

Overall, 70 percent of schools with service-learning had students participating in gradewide service-learning, where all students in one or more grades participated in a service project or program through academic coursework (table 2). Sixty-two percent of schools reported that service-learning was offered in individual academic classes that were not part of a broader grade- or schoolwide initiative. Disciplinewide service-learning, that is, service-learning integrated into an entire subject area through academic coursework, was utilized in 53 percent of schools. One-third of the schools with service-learning reported having

schoolwide service-learning during the 1998–99 academic year.

Examining the data by instructional level reveals significant differences in the ways elementary schools and middle/high schools implemented service-learning. Elementary schools were more likely to have gradewide or disciplinewide service-learning than were middle/high schools. At the same time, middle/high schools were more likely than elementary schools to have service-learning in individual academic classes that were not part of a broader grade- or schoolwide initiative or in separate electives or advisory periods.

The ways schools implemented service-learning varied, to some extent, by whether the service-learning was voluntary or mandatory. In general, schools were more likely to make service-learning a voluntary choice for students than to mandate it (figure 1). When looking at mandatory participation and voluntary participation practices by instructional level, middle/high schools were more likely to make participation in service-learning voluntary. However, any difference that might exist at the elementary school level between mandatory and voluntary participation was not statistically significant.

Types of support for teachers

Interest in involving students in service-learning has been accompanied by support being provided to teachers interested in integrating service-learning into their course curriculum. Nationwide, 83 percent of public schools with service-learning offered some type of support to teachers interested in integrating service-learning into the curriculum (table 3). The most common types of support provided to teachers included support for attending service-learning training or conferences outside of the school (66 percent), financial support for costs associated with service-learning projects or programs (58 percent), and minigrants for service-learning programs or curriculum development (45 percent). However, smaller percentages of schools provided staff support in the form of part-time service-

Table 2.—Of public schools with service-learning, percent implementing service-learning in various ways, by instructional level: Academic year 1998–99

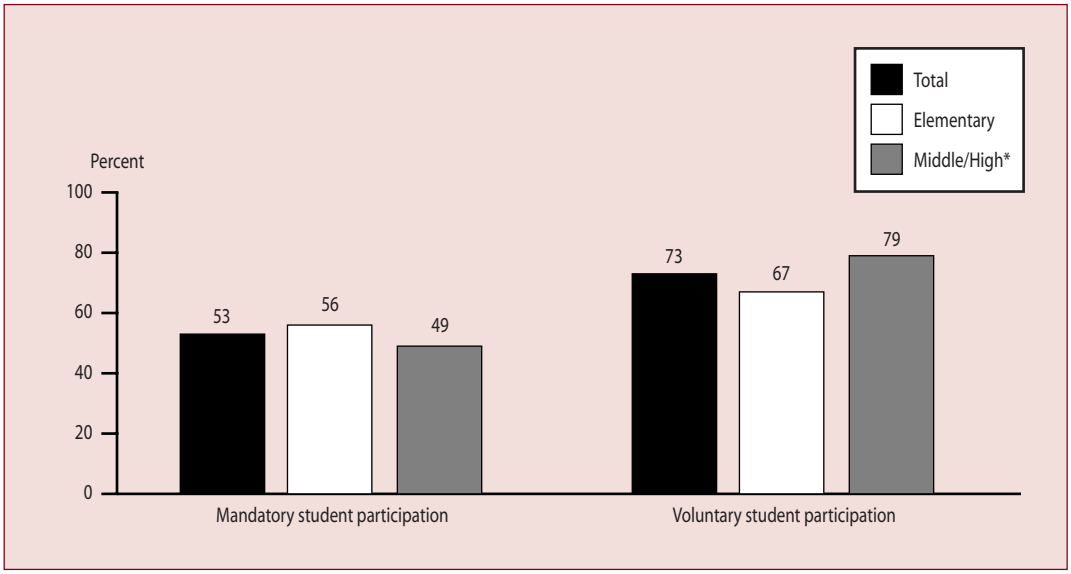
Instructional level and implementation of service-learning	Percent with any participation
All schools	
Gradewide service-learning	70
Service-learning in individual academic courses that are not part of a broader grade- or schoolwide initiative	62
Disciplinewide service-learning	53
Service-learning as part of a special education program	34
Schoolwide service-learning	33
Service-learning as a separate elective or advisory period	29
Service-learning as part of a dropout prevention course or program	14
Elementary	
Gradewide service-learning	88
Service-learning in individual academic courses that are not part of a broader grade- or schoolwide initiative	54
Disciplinewide service-learning	62
Service-learning as part of a special education program	35
Schoolwide service-learning	37
Service-learning as a separate elective or advisory period	20
Service-learning as part of a dropout prevention course or program	11
Middle/high*	
Gradewide service-learning	53
Service-learning in individual academic courses that are not part of a broader grade- or schoolwide initiative	70
Disciplinewide service-learning	44
Service-learning as part of a special education program	33
Schoolwide service-learning	28
Service-learning as a separate elective or advisory period	38
Service-learning as part of a dropout prevention course or program	16

*High schools include high schools and combined schools. Combined schools are schools that contain both elementary and secondary grades. The highest grade in these schools must be at least 9th grade.

NOTE: Data presented in this table are based upon the number of schools having service-learning—32 percent of public schools. Percentages of schools implementing service-learning in various ways do not sum to 100 because many schools implemented service-learning in more than one way.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "National Student Service-Learning and Community Service Survey," FRSS 71, 1999.

Figure 1.—Percent of public schools with service-learning, by instructional level and mandatory or voluntary student participation: Academic year 1998–99



*High schools include high schools and combined schools. Combined schools are schools that contain both elementary and secondary grades. The highest grade in these schools must be at least 9th grade.

NOTE: Data presented in the figure are based upon the number of schools having service-learning—32 percent of public schools. Percentages of schools reporting mandatory and voluntary student participation in service-learning do not sum to 100 because many schools had both mandatory and voluntary student participation in service-learning.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "National Student Service-Learning and Community Service Survey," FRSS 71, 1999.

Table 3.—Percent of public schools with service-learning that provide support to teachers interested in integrating service-learning into their course curriculum, by type of support provided: Academic year 1998–99

Type of support provided	Percent providing support
Any support	83
Support for attending service-learning training or conferences outside of the school	66
Financial support for costs associated with service-learning projects or programs	58
Minigrants for service-learning program or curriculum development	45
Special recognition or awards for teachers using service-learning in their courses	29
Part-time service-learning coordinator	18
Extra planning time for service-learning activities	15
Reduction in course load to allow time for service-learning program development or supervision	11
Full-time service-learning coordinator	3
Other	3

NOTE: Data presented in this table are based upon the number of schools having service-learning—32 percent of public schools. Percentages of schools reporting that they provided support to teachers interested in integrating service-learning into their course curriculum do not sum to 100 because many schools reported providing more than one type of support.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "National Student Service-Learning and Community Service Survey," FRSS 71, 1999.

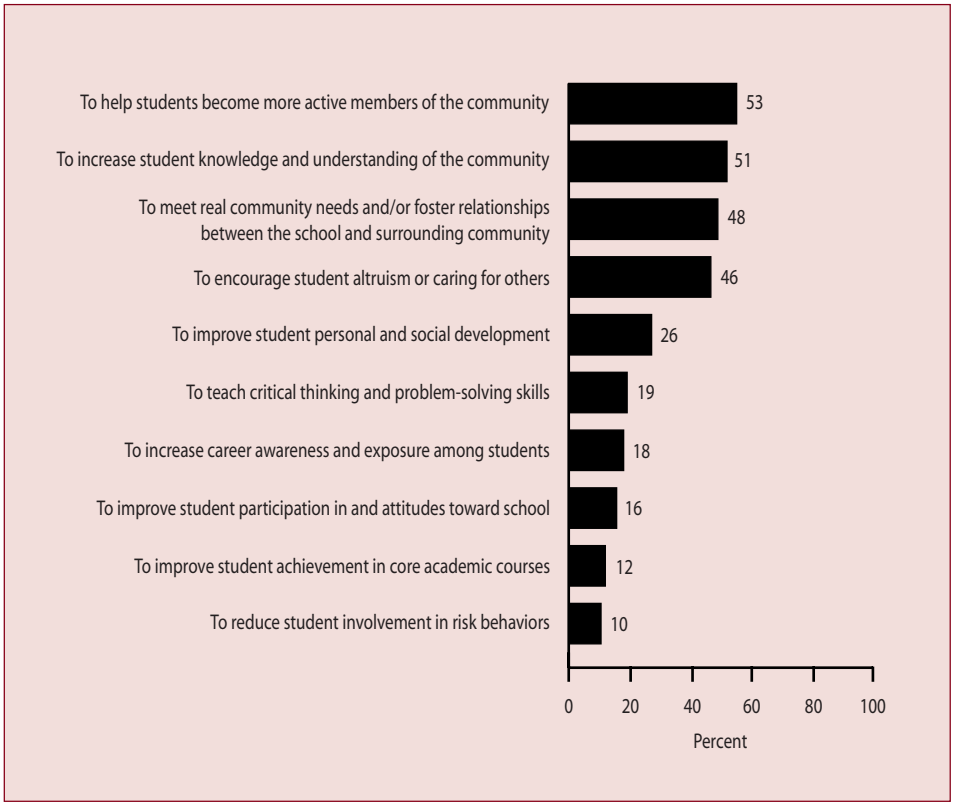
learning coordinators (18 percent) or full-time service-learning coordinators (3 percent).

Why service-learning?

Public schools with service-learning were asked to select their three most important reasons for encouraging student involvement in service-learning from a list of ten potential reasons. These reasons ranged from increasing student knowledge and understanding of the community to improving student participation in school. The most frequently cited reasons for encouraging student involvement in service-learning focused on the relationships among students, the school, and the community. For example, 53 percent of schools said that they encouraged student involvement in service-learning to help students become more active members of the community (figure 2). The other most frequently cited reasons were increasing student knowledge and understanding of the community (51 percent), meeting real community needs and/or fostering relationships between the school and surrounding community (48 percent), and encouraging student altruism or caring for others (46 percent).

While involvement with the community is a key component of service-learning, it is only a part of the service-learning experience. The other side of service-learning emphasizes the connection between service and academics (figure 2). About one-fifth (19 percent) of schools with service-learning said that one of their top three reasons for encouraging student involvement in service-learning was to teach critical thinking and problem-solving skills. In addition, 12 percent of schools with service-learning said

Figure 2.—Of public schools with service-learning, percent indicating that various reasons for encouraging student involvement in service-learning were among the most important: Academic year 1998–99



NOTE: Data presented in this figure are based upon the number of schools having service-learning—32 percent of public schools. Percentages of schools citing reasons for encouraging student involvement in service-learning do not sum to 100 percent because schools selected their three most important reasons.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "National Student Service-Learning and Community Service Survey," FRSS 71, 1999.

that improving student achievement in core academic courses was one of their most important reasons for encouraging student involvement in service-learning.

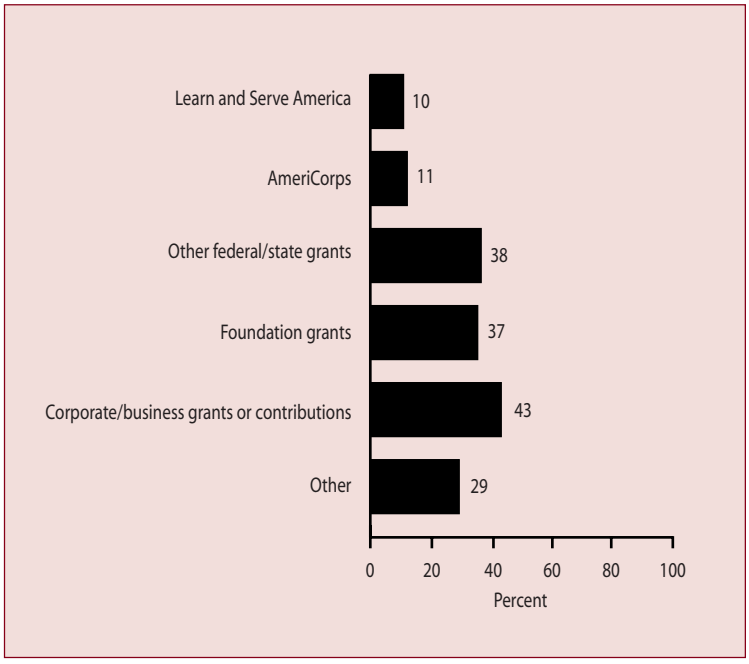
Special funding for service activities

All public schools were asked whether they received any special grants or other special funding to support community service and/or service-learning. Four-fifths of all schools (84 percent) that reported they had some level of service-learning and/or community service also reported they did not receive outside financial help to fund the program(s). Of the 16 percent of schools that did report receiving special funding, 43 percent reported receiving support from corporations or businesses, and 37 percent reported receiving support from foundation grants (figure 3). Ten percent of schools receiving special support indicated that they received support through the Learn and Serve America program, a federal program designed to provide grants to schools interested in integrating service-learning into their curriculum.

Conclusion

The findings from the "National Student Service-Learning and Community Service Survey" indicate that community service and service-learning are rooted in the U.S. public elementary and secondary education system. The data suggest that there has been an increase in the percentage of public schools involving their students in community service activities, and much of this service is being integrated into the curriculum. For example, in 1984, 27 percent of all high schools were reported to have community service and 9 percent were reported to have service-learning (Newmann and Rutter 1985). During the 1998–99 academic year, these percentages were 83 percent and 46 percent, respectively (table 1). At the same time, the majority of schools with service-learning provided some support to teachers interested in integrating service-learning into their curriculum. Among schools with service-learning, the most frequently cited reasons for involving students in service-learning revolved around strengthening relationships among students, the school, and the community.

Figure 3.—Of public schools receiving any special grants or other special funding to support service-learning and/or community service activities, percent receiving various sources of funding: Academic year 1998–99



NOTE: Data presented in this figure are based upon the number of schools that reported receiving any special grants or other special funding to support service-learning or community service activities—16 percent of public schools. Percentages of schools reporting that they received special grants or special funding do not sum to 100 because many schools reported receiving special grants or special funding from more than one source.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Fast Response Survey System (FRSS), "National Student Service-Learning and Community Service Survey," FRSS 71, 1999.

While this report uses some of the data from the FRSS study on school-level service-learning to provide much-needed basic information about the state of service-learning in our public schools, more analyses can and should come out of these data. For instance, while it is clear that many schools support service-learning to some degree, it is not clear how deep such support is. Detailed items from the study about the level of support for teacher service-learning training could help answer this question. Another issue that could be explored using these data deals with the subject areas in which service-learning is integrated. A third question that could be addressed is to what extent and in what capacity students are involved in selecting the service activities they will perform. Of course, this study cannot answer every important question about schools' and students' experiences with service-learning, suggesting the need for further studies. For example, it would be interesting to learn if schools that have initiated service-learning activities build on their early experiences by institutionalizing service-learning over time. Such a question and others examining changes in schools' use of service-learning, student participation, support for teachers, and funding require research allowing analysis of changes across time.

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Data source: The NCES Fast Response Survey System (FRSS), "National Student Service-Learning and Community Service Survey," FRSS 71, 1999.

For technical information, see the complete report:

Skinner, R., and Chapman, C. (1999). *Service-Learning and Community Service in K–12 Public Schools* (NCES 1999–043).

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To obtain the complete report (NCES 1999–043), call the toll-free ED Pubs number (877–433–7827), visit the NCES Web Site *(http://nces.ed.gov)*, or contact GPO (202–512–1800).

Internet Access

Internet Access in Public and Private Schools

This article was originally published as an Indicator of the Month, taken from* The Condition of Education: 1999. *The sample survey data are from several surveys—listed at the end of this article—on advanced telecommunications and Internet access in U.S. schools. The surveys were conducted through the NCES Fast Response Survey System (FRSS).

The Internet, with its vast array of information, can broaden the learning resources available in schools by providing teachers and students with connections to libraries, schools, and government agencies. Information found on the Internet can broaden students' knowledge base, and Internet access can prepare students for an increasingly technological workplace. Examining patterns of Internet access in schools can help determine how many students will be prepared to use this technology effectively in the future.

- Between fall 1994 and fall 1998, Internet access in public schools increased from 35 to 89 percent of schools (table 1 and figure 1a). The percentage of public school instructional rooms with Internet access also increased during this time period (from 3 percent in 1994 to 51 percent in 1998).
- Public schools with a high student poverty level (71 percent or more of students eligible for free or reduced-price lunch) were less likely to have Internet access than schools with a low student poverty level (less than 11 percent of students eligible for free or reduced-price lunch) from fall 1994 to 1997 (table 1 and figure 1b). However, in fall 1998, high poverty-level public schools were as likely to have Internet access as low poverty-level schools.
- In fall 1997, public schools with a high minority enrollment (50 percent or more) had both a lower rate of Internet access and a smaller percentage of instructional rooms with Internet access than public schools with a low minority enrollment (less than 6 percent) (table 1). By fall 1998, the gap between high and low minority enrollment schools with Internet access had closed, but high minority enrollment schools were still less likely to have instructional rooms with Internet access.
- In both public and private schools with Internet access, teachers were more likely to have access to e-mail, news groups, resource location services, and the World Wide Web than were students in these schools.

Table 1.—Percentage of public schools and instructional rooms with Internet access, by school characteristics: Fall 1994–98

School characteristics	Percentage of schools with Internet access					Percentage of instructional rooms with Internet access[1]				
	1994	1995	1996	1997	1998	1994	1995	1996	1997	1998
Total	35	50	65	78	89	3	8	14	27	51
Level of school[2]										
Elementary	30	46	61	75	88	3	8	13	24	51
Secondary	49	65	77	89	94	4	8	16	32	52
Percentage of students eligible for free or reduced-price lunch										
Less than 11	40	62	78	88	87	4	9	18	36	62
11–30	39	59	72	83	94	4	10	16	32	53
31–70	33	47	58	78	91	3	7	14	27	52
71 or more	19	31	53	63	80	2	3	7	14	39
Percentage of minority students enrolled										
Less than 6	38	52	65	84	91	6	9	18	37	57
6–20	38	58	72	87	93	4	10	18	35	59
21–49	38	54	65	73	91	4	9	12	22	52
50 or more	27	40	56	63	82	3	3	5	13	37

[1]Based on the total number of instructional rooms in regular public schools.

[2]Data for combined schools are not reported as a separate level of school because there are too few sample observations for a reliable estimate. Included in the totals are data for combined schools.

SOURCE: U.S. Department of Education, National Center for Education Statistics: (1998) *Internet Access in Public Schools* (NCES 98–031), table 1, p. 1; (1999) *Internet Access in Public Schools and Classrooms: 1994–98* (NCES 1999–017), table 1, p. 1; and (1997) *Advanced Telecommunications in U.S. Public Elementary and Secondary Schools: Fall 1996* (NCES 97–944), table 1, p. 3.

Figure 1a.—Percentage of public schools and instructional rooms with Internet access: Fall 1994–98

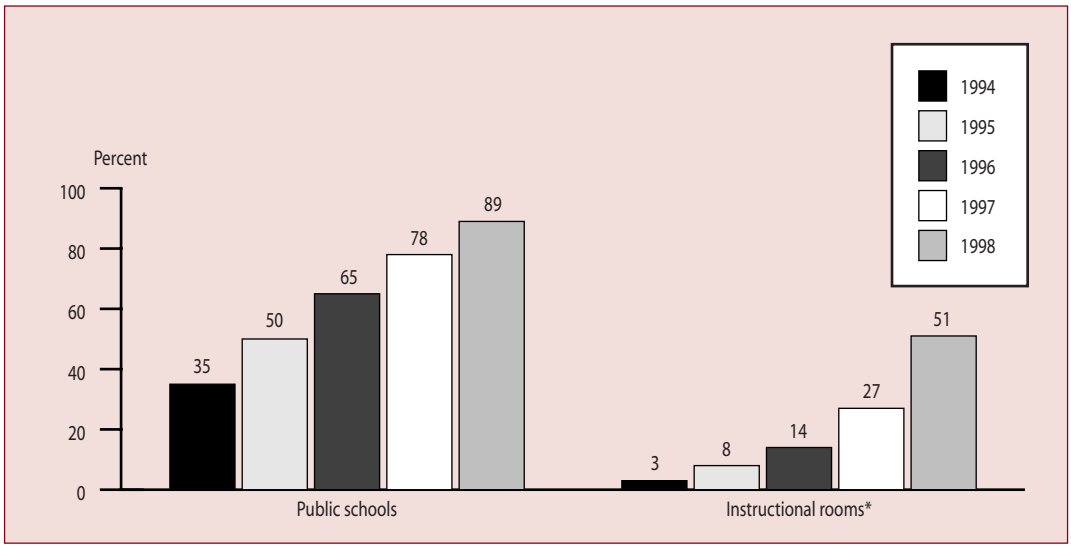
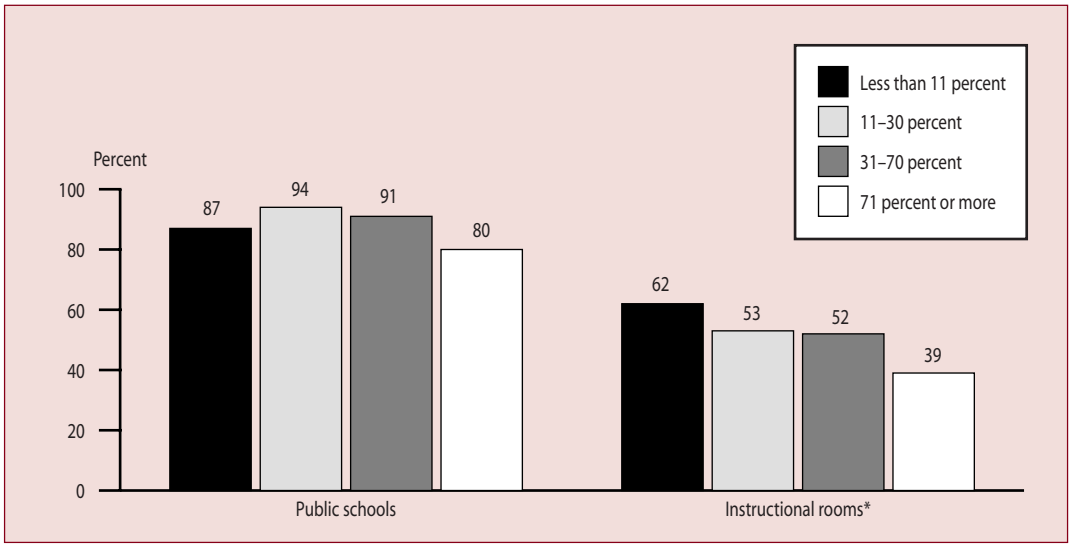


Figure 1b.—Percentage of public schools and instructional rooms with Internet access, by percentage of students eligible for free or reduced-price lunch: Fall 1998



*Based on the total number of instructional rooms in regular public schools.

SOURCE: U.S. Department of Education, National Center for Education Statistics: (1998) *Internet Access in Public Schools* (NCES 98–031), table 1, p. 1; (1999) *Internet Access in Public Schools and Classrooms: 1994–1998* (NCES 1999–017), table 1, p. 1; and (1997) *Advanced Telecommunications in U.S. Public Elementary and Secondary Schools: Fall 1996* (NCES 97–944), table 1, p. 3.

Data sources: The following surveys, all conducted through the NCES Fast Response Survey System (FRSS): "Survey on Advanced Telecommunications in U.S. Public Schools, K–12" (FRSS 51, 1994); "Survey on Advanced Telecommunications in U.S. Private Schools, K–12" (FRSS 56, 1995); "Survey on Advanced Telecommunications in U.S. Public Schools, K–12" (FRSS 57, 1995); "Survey on Advanced Telecommunications in U.S. Public Schools: Fall 1996" (FRSS 61, 1996); "Survey on Advanced Telecommunications in U.S. Public Schools: Fall 1997" (FRSS 64, 1997); and "Survey on Internet Access in U.S. Public Schools: Fall 1998" (FRSS 69, 1998).

For technical information, see

National Center for Education Statistics. (1999). *The Condition of Education: 1999* (NCES 1999–022).

For complete supplemental and standard error tables, see either

- the electronic version of *The Condition of Education: 1999 (http://nces.ed.gov/pubs99/condition99),* or
- volume 2 of the printed version (forthcoming): *The Condition of Education: 1999 Supplemental and Standard Error Tables* (NCES 2000–016).

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Private School Universe

Private School Universe Survey: 1997–98

Stephen P. Broughman and Lenore A. Colaciello

This article was originally published as the Introduction and Selected Results of the Statistical Analysis Report of the same name. The universe data are from the NCES Private School Survey (PSS).

Introduction

This report on the private school universe presents data on schools with grades kindergarten through 12 by school size, school level, religious orientation, geographic region, community type, and program emphasis. The numbers of students and teachers are reported in the same categories. The number of students is also reported by race/ethnicity, gender, and grade level.

Tables in the complete report present data by three classification schemes: private school typology, religious orientation, and association membership. The private school nine-category typology is based on methodological work completed at the National Center for Education Statistics (NCES). Each of the primary divisions (Catholic, other religious, and nonsectarian) is subdivided into three additional categories: Catholic into parochial (parish), diocesan, and private order; other religious into conservative Christian, affiliated with a national denomination or other religious school association, and unaffiliated; and nonsectarian into regular program, special emphasis, and special education.

The Private School Survey (PSS), conducted every 2 years by the U.S. Bureau of the Census for NCES, is designed to collect data from all private schools in the 50 states and the District of Columbia. The PSS conducted in 1997–98 is the data source for this report. The counts presented here are estimates derived from an area frame as well as a census of lists. (An estimate of the total undercount is given in the full report.) Although, beginning in 1995, the PSS definition of a school was expanded to include those schools for which kindergarten was the highest grade, referred to as kindergarten-terminal schools, all estimates presented in this report, unless otherwise stated, will be for traditional schools, i.e., those meeting the more restrictive pre-1995 PSS definition of having at least one of grades 1 through 12.

Selected Results

Schools

In the fall of 1997, there were 27,402 private elementary and secondary schools in the United States, a total not statistically different from the 27,686 schools counted in the fall of 1995 (Broughman and Colaciello 1998). Among these schools, there was considerable diversity as to orientation and affiliation. Of the three primary types of private schools—Catholic, other religious, and nonsectarian—other religious schools were the most numerous, followed by Catholic schools and then nonsectarian schools, representing 48, 30, and 22 percent of all private schools, respectively (table 1 and figure 1). Parochial schools were the most numerous type of Catholic schools, followed by diocesan and then private order schools. Among the three categories of other religious schools—conservative Christian, affiliated, and unaffiliated—there were fewer affiliated schools than conservative Christian schools or unaffiliated schools. Of the nonsectarian schools, regular schools were the most numerous, followed by special emphasis schools and then special education schools.

The regions with the most private schools were the Midwest (27 percent) and South (30 percent); the region with the fewest was the West (20 percent) (table 1). Ninety-one percent of private schools offered at least some elementary grades, with 61 percent offering elementary grades only and 30 percent offering a combination of elementary and secondary grades; the remaining 9 percent offered secondary grades only. Most private schools (82 percent) emphasized a regular elementary/secondary program. The other program emphasis categories—Montessori, special program emphasis, special education, vocational/technical, early childhood, and alternative—each contained fewer than 10 percent of private schools.

Enrollment

Approximately 5 million students were enrolled in the nation's private schools in the fall of 1997, a total not statistically different from that of 1995 (Broughman and Colaciello 1998). Private school students represent approximately 10 percent of the total elementary and secondary students in the United States.[1]

In contrast to the number of schools, more students were enrolled in Catholic schools than in other religious schools, 50 and 35 percent of total private enrollment, respectively (table 1 and figure 2). Like the number of schools, enrollment in nonsectarian schools, representing 16 percent of all private students, was less than that of Catholic or other

[1]The source for public school enrollment data is the Common Core of Data (CCD) "State Nonfiscal Survey of Public Elementary/Secondary Education: School Year 1997–1998" (Johnson 1999).

Table 1.—Number and percentage distribution of private schools, students, and FTE teachers, by private school typology and selected characteristics: United States, 1997–98

Selected characteristics	Schools		Students		FTE teachers	
	Number	Percent	Number	Percent	Number	Percent
Total	27,402	100.0	5,076,119	100.0	376,544	100.0
Private school type						
Catholic	8,182	29.9	2,514,699	49.5	144,642	38.4
Parochial	4,778	17.4	1,345,956	26.5	72,444	19.2
Diocesan	2,556	9.3	829,250	16.3	47,400	12.6
Private	848	3.1	339,494	6.7	24,799	6.6
Other religious	13,195	48.2	1,764,447	34.8	143,073	38.0
Conservative Christian	4,978	18.2	737,013	14.5	56,834	15.1
Affiliated	3,287	12.0	551,517	10.9	46,362	12.3
Unaffiliated	4,929	18.0	475,917	9.4	39,877	10.6
Nonsectarian	6,025	22.0	796,972	15.7	88,829	23.6
Regular	2,705	9.9	553,371	10.9	57,422	15.3
Special emphasis	2,070	7.6	158,627	3.1	16,950	4.5
Special education	1,250	4.6	84,975	1.7	14,457	3.8
School level						
Elementary	16,623	60.7	2,824,844	55.7	180,452	47.9
Secondary	2,487	9.1	798,339	15.7	60,885	16.2
Combined	8,292	30.3	1,452,937	28.6	135,207	35.9
Program emphasis						
Regular elementary/secondary	22,363	81.6	4,684,016	92.3	330,165	87.7
Montessori	1,144	4.2	69,911	1.4	7,544	2.0
Special program emphasis	589	2.2	100,149	2.0	9,795	2.6
Special education	1,387	5.1	93,498	1.8	15,983	4.3
Vocational/technical	—	—	—	—	—	—
Early childhood	160	0.6	7,898	0.2	582	0.2
Alternative	1,745	6.4	118,790	2.3	12,339	3.3
Size						
Less than 150	15,573	56.8	918,907	18.1	96,241	25.6
150 to 299	6,656	24.3	1,439,334	28.4	99,344	26.4
300 to 499	3,125	11.4	1,197,240	23.6	78,641	20.9
500 to 749	1,339	4.9	800,437	15.8	53,089	14.1
750 or more	711	2.6	720,201	14.2	49,229	13.1
Region						
Northeast	6,325	23.1	1,287,045	25.4	100,306	26.6
Midwest	7,423	27.1	1,345,553	26.5	88,612	23.5
South	8,111	29.6	1,510,340	29.8	121,925	32.4
West	5,542	20.2	933,182	18.4	65,701	17.5
Community type						
Central city	10,902	39.8	2,472,859	48.7	178,074	47.3
Urban fringe/large town	10,263	37.5	2,018,085	39.8	148,850	39.5
Rural/small town	6,236	22.8	585,175	11.5	49,620	13.2

— Too few sample cases for a reliable estimate.

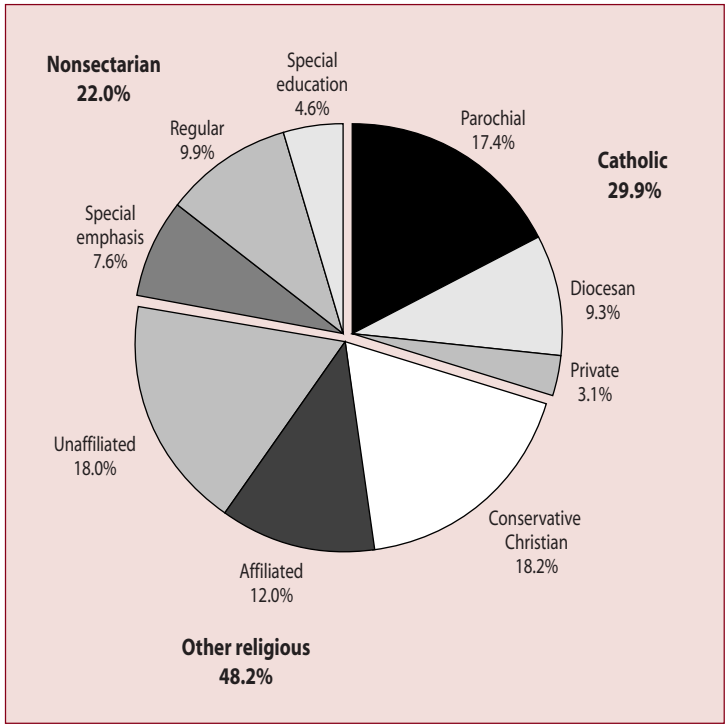
NOTE: Details may not add to totals due to rounding or missing values in cells with too few sample cases.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Private School Survey (PSS), 1997–98.

religious schools. That Catholic schools represent approximately one-third of all private schools while containing half of private school students is an indication that the distribution of schools by size is not the same for the three types of schools. In fact, the percentage of schools that are small (fewer than 150 students) is over three times greater for other religious (72 percent) and nonsectarian (76 percent) schools than for Catholic schools (19 percent). The pattern of enrollment for the three categories of Catholic schools mirrored that of the number of schools; more students were enrolled in parochial schools, followed by diocesan schools and then private order schools. Among the three categories of other religious schools, the enrollment pattern did not mirror the number of schools. Enrollment was greatest in conservative Christian schools, followed by affiliated schools and then unaffiliated schools. Of the nonsectarian schools, regular schools had more students, followed by special emphasis schools and then special education schools.

Approximately 56 percent of private school students were enrolled in elementary schools, 16 percent were enrolled in

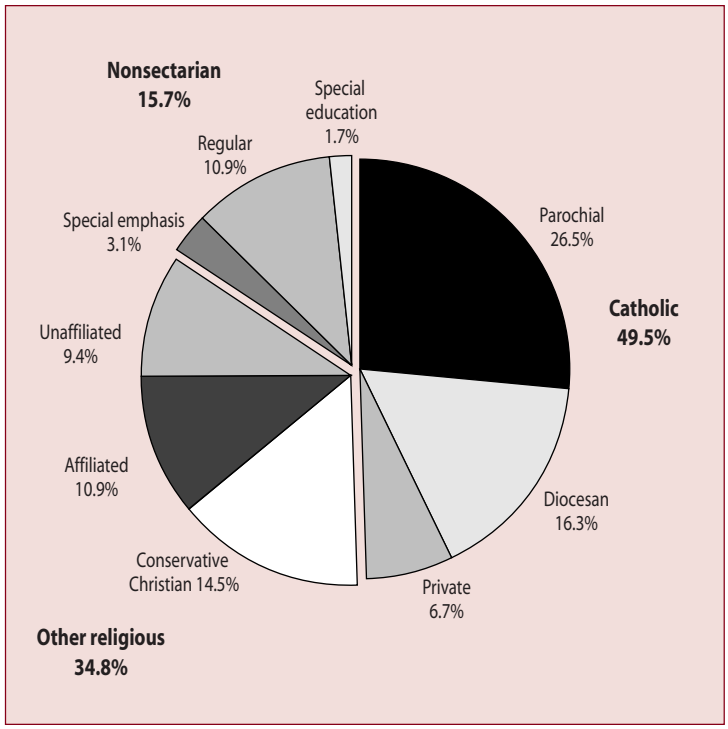
Figure 1.—Percentage distribution of private schools, by typology



NOTE: Details may not sum to 100.0 percent due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Private School Survey (PSS), 1997–98.

Figure 2.—Percentage distribution of private school students, by typology



SOURCE: U.S. Department of Education, National Center for Education Statistics, Private School Survey (PSS), 1997–98.

secondary schools, and 29 percent were enrolled in combined schools (table 1). Ninety-two percent of private school students were enrolled in schools with a regular elementary/secondary program emphasis, while fewer than 5 percent of private school students were enrolled in schools featuring any one of the other categories of program emphasis.

About three-quarters (78 percent) of private school students were white, non-Hispanic; while 9, 8, 0.5, and 5 percent were black, non-Hispanic; Hispanic; American Indian/Alaska Native; or Asian/Pacific Islander, respectively.[2] Almost half of all private school students attended schools that were located in urban areas, and approximately 40 percent attended schools that were located in an urban fringe or a large town, while only 12 percent attended rural schools (table 1).

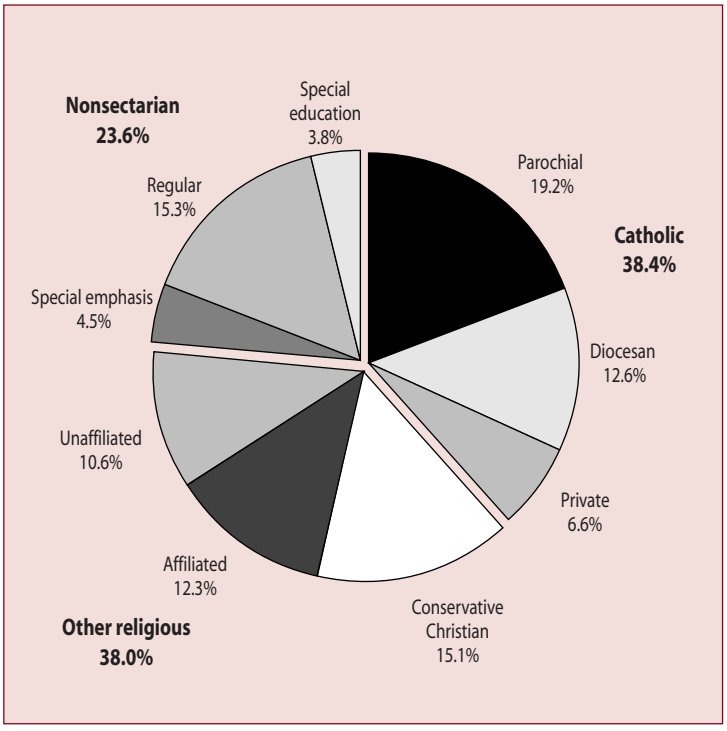
Teachers

The nation's private school students were taught by approximately 377,000 full-time-equivalent (FTE) teachers (table 1) in 1997, representing an increase over the number of FTE teachers employed in private schools in 1995 (Broughman and Colaciello 1998). In contrast to enrollment, Catholic schools and other religious schools each employed approximately the same number of FTE teachers (38 percent), while both employed more than nonsectarian schools (24 percent) (table 1 and figure 3). The pattern of teacher employment for the three categories of Catholic schools mirrored that of the number of schools and students; more FTE teachers were teaching in parochial schools, followed by diocesan schools and then private order schools. For other religious and nonsectarian schools, the number of FTE teachers followed the same pattern as the number of students enrolled. Among the three categories of other religious schools, conservative Christian schools employed the most teachers, followed by affiliated schools and then unaffiliated schools. Of the nonsectarian schools, more FTE teachers were employed by regular schools, followed by special emphasis schools and then special education schools.

Nearly one-half of FTE teachers (48 percent) were teaching in elementary schools, roughly one-third (36 percent) in combined schools, and about 16 percent in secondary schools. Almost 88 percent of private school FTE teachers

[2]For comparisons of the racial/ethnic composition of private school enrollment with that of public schools based on 1987–88, 1990–91, and 1993–94 data from the Schools and Staffing Survey (SASS), see McLaughlin, O'Donnell, and Ries (1995) and McLaughlin (1997).

Figure 3.—Percentage distribution of private school FTE teachers, by typology



SOURCE: U.S. Department of Education, National Center for Education Statistics, Private School Survey (PSS), 1997–98.

were teaching in schools with a regular elementary/secondary program emphasis. As in the case of students, fewer than 5 percent of private school FTE teachers were teaching in schools featuring any one of the other categories of program emphasis.

Kindergarten-terminal schools

Since 1995, schools for which kindergarten was the highest grade have been included in the PSS. In the fall of 1997, there were 6,493 of these schools enrolling 103,061 students and employing 14,816 FTE teachers nationwide. When the kindergarten-terminal schools are combined with the traditional PSS schools, the total number of schools becomes 33,895, with 5,179,181 students and 391,360 FTE teachers. Almost 7 out of 10 of the kindergarten-terminal schools were nonsectarian (69 percent), 28 percent were other religious, and 3 percent were Catholic.

By definition, all of these schools were classified as elementary, and almost all of them enrolled fewer than 150 students. Approximately 80 percent of these schools emphasized an early childhood program, 18 percent emphasized a Montessori program, and fewer than 5 percent each emphasized any one of the other program emphases.

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Data source: The NCES Private School Survey (PSS), 1997–98.

For technical information, see the complete report:

Broughman, S.P., and Colaciello, L.A. (1999). *Private School Universe Survey: 1997–98* (NCES 1999–319).

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To obtain the complete report (NCES 1999–319), call the toll-free ED Pubs number (877–433–7827), visit the NCES Web Site *(http://nces.ed.gov),* or contact GPO (202–512–1800).

Key Statistics on Public Elementary and Secondary Schools and Agencies: School Year 1995–96

Lee Hoffman

This article was excerpted from the report of the same name. The universe data are from the NCES Common Core of Data (CCD).

Introduction

This report provides information about the organization, students, staff, and financial resources of public elementary and secondary education agencies and schools in the United States during the 1995–96 school year. The purpose is to make this information widely available through a comprehensive set of tables and summary text.

The information is taken from the Common Core of Data (CCD) survey system. The CCD consists of data provided voluntarily each year by the education agencies of the 50 states, the District of Columbia, the Department of Defense Dependents Schools (overseas), and five outlying areas.[1]

The CCD surveys include the "Public Elementary/ Secondary School Universe Survey" and "Local Education Agency Universe Survey," which are the major focus of this report. Data from the CCD "State Nonfiscal Survey of Public Elementary/Secondary Education" and "National Public Education Financial Survey" also are used in the analyses, as is finance information from the CCD "School District Financial Survey (Form F-33)," collected through the U.S. Bureau of the Census' "Annual Survey of Government Finances: School Systems."

Characteristics of Public Schools and Agencies

During the 1995–96 school year, there were more than 16,000 local education agencies in the 50 states and the District of Columbia, and almost 15,000 of these were regular school districts directly responsible for providing free public education to pupils in their jurisdictions (figure A). These education agencies administered more than 87,000 public schools. Most of these, some 81,000, were regular schools. About 1,000 others were vocational schools, 2,000 were special education schools, and approximately 3,000 were reported as other or alternative school types.

The 15 years preceding the 1995–96 school year saw a 10 percent increase in the number of public school students (table A). At the same time, the average size of districts and schools[2] increased by 17 and 8 percent, respectively, while the average pupil/teacher ratio decreased by 1.4 pupils.

Three out of 10 public schools enrolled fewer than 300 children in 1995–96. About 2 out of 5 schools were in towns or rural communities; these schools tended to be relatively small, and enrolled only about 1 out of 4 students (figure B). About one-third of public school students were found in the schools of large or mid-size cities.

About half of public school students (51 percent) were enrolled in primary schools, 20 percent were in middle schools, and 27 percent were in high schools. Only 3 percent were in schools of some other grade configuration (including ungraded schools).

Overall, middle schools were slightly larger than high schools and considerably larger than primary schools. The median size of a primary school in 1995–96 was 428 students; that of a middle school, 567 students; and a high school, 539. Schools that represented some other grade configuration tended to be much smaller, with half reporting fewer than 167 students.

Public School Students and Outcomes

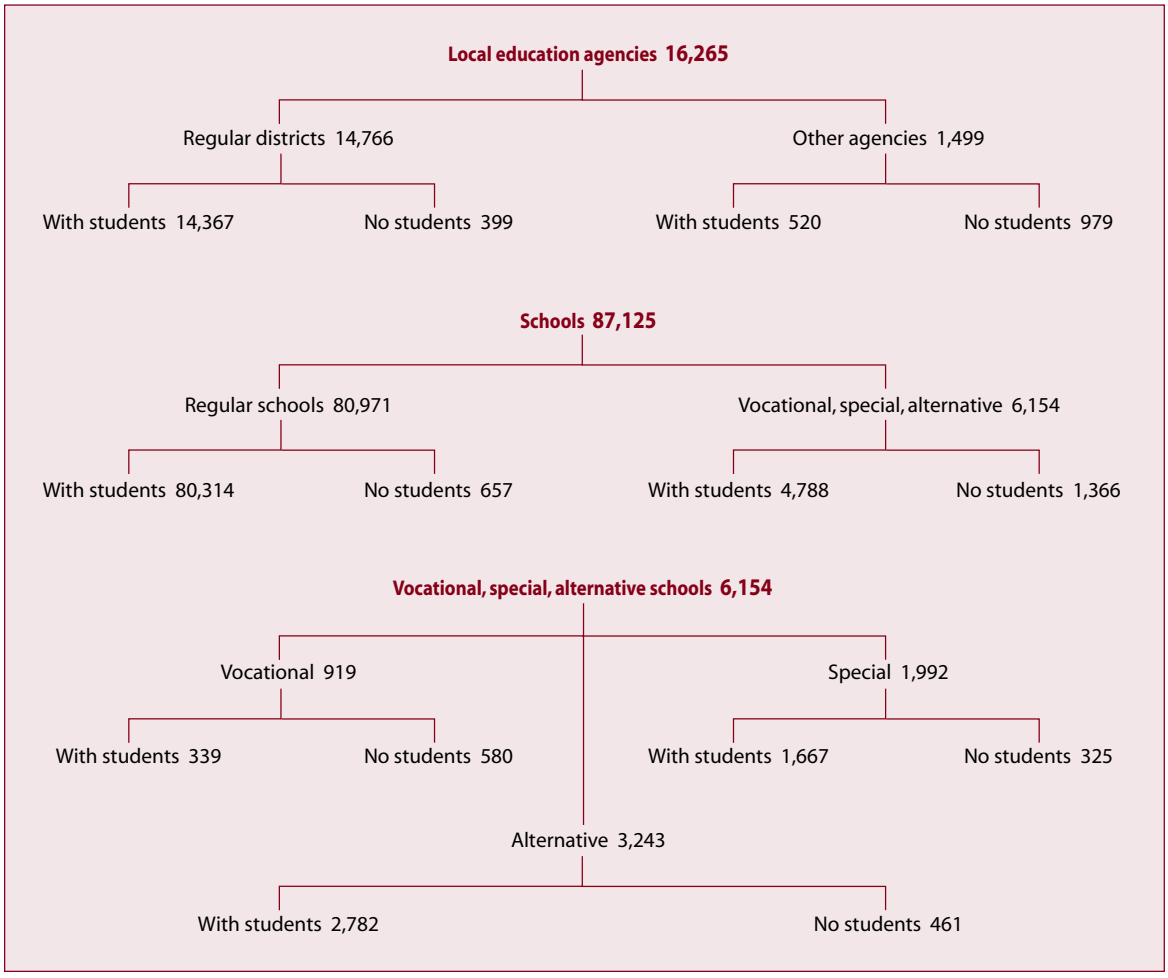
There were about 45 million public school students in 1995–96. Of these, two-thirds were white, non-Hispanic. About 1 in 6 was black, non-Hispanic, and 1 in 7 was Hispanic. Among the 40 states that reported the number of students eligible for the federal Free Lunch Program, 23 states reported free-lunch data for schools in large cities. In 10 of these 23 states, half or more of the students in the large-city school districts were eligible.

Almost 2.3 million students received a regular high school diploma in 1995–96. Among the 29 states reporting dropouts, two-thirds had a dropout rate of under 5 percent across grades 9–12. However, the dropout rate among Hispanic students was 10 percent or more in 11 reporting states.

[1]This article is limited to the 50 states and the District of Columbia (collectively referred to as "the states"). In the complete report, information on the Department of Defense Dependents Schools and outlying areas is provided primarily in the tables.

[2]The size of a district or school is defined as the number of students in membership (enrolled) on October 1 or the school day closest to that date.

Figure A.—Types and numbers of local education agencies and schools: School year 1995–96



NOTE: Vocational, alternative, and special schools may report no students because they provide services to students whose membership is reported by another school.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "Public Elementary/Secondary School Universe Survey" and "Local Education Agency Universe Survey," 1995–96.

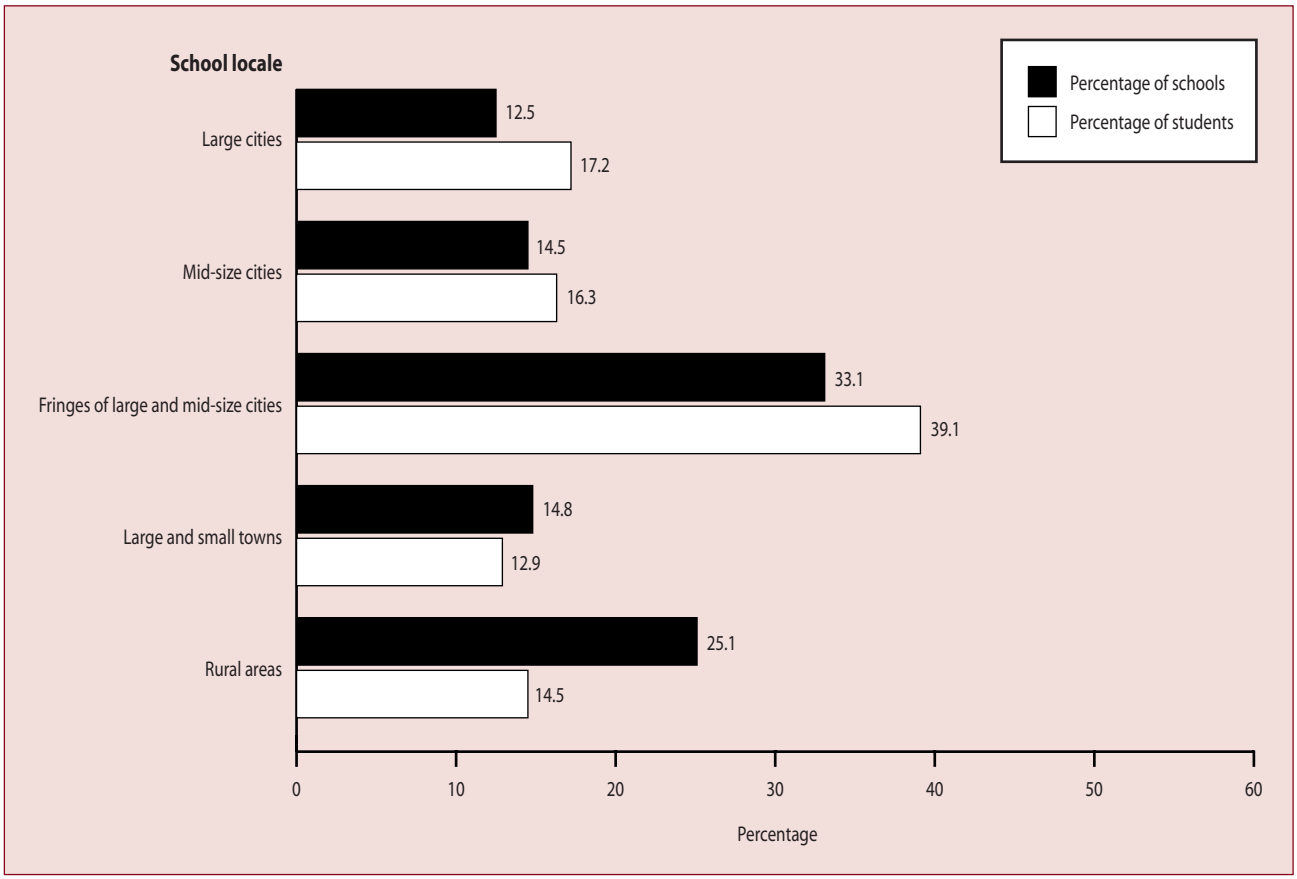
Table A.—Numbers of education agencies, schools, and students: 1980–81 and 1995–96

	1980	1995	15-year change
School districts	15,912	14,766	- 7.2 percent
Average number of students per district	2,569	3,012	+ 17.2 percent
Schools	85,987	87,125	+ 1.3 percent
Average number of students per school	475	515	+ 8.4 percent
Pupil/teacher ratio	18.7	17.3	-1.4 pupils
Total students	40,877,481	44,840,481	+ 9.7 percent

NOTE: All districts in 1980 are compared with regular districts in 1995 to compensate for expansion of CCD coverage after 1980. "Average student" ratios include districts and schools with and without membership, and do not agree with average school and district sizes reported elsewhere.

SOURCE: U.S. Department of Education, National Center for Education Statistics: (1996 and 1997) *Digest of Education Statistics* (NCES 96–133 and NCES 98–015); Common Core of Data (CCD), "Public Elementary/Secondary School Universe Survey" and "Local Education Agency Universe Survey," 1995–96.

Figure B.—Percentage of schools and students in different locales: School year 1995–96



SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "Public Elementary/Secondary School Universe Survey" and "Local Education Agency Universe Survey," 1995–96. (Originally published as figure D on p. 7 of the complete report from which this article is excerpted.)

Public School Staff

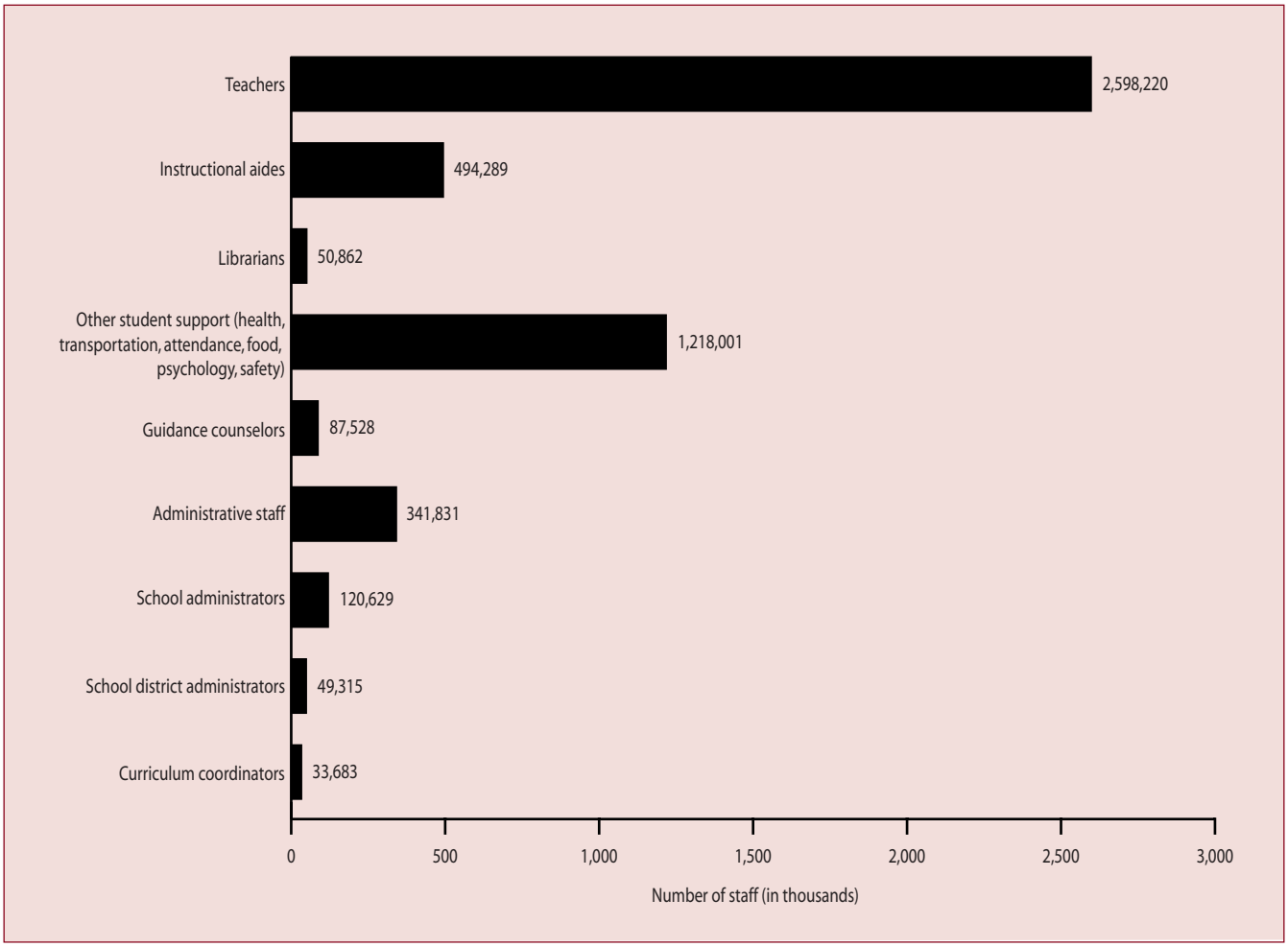
The almost 2.6 million teachers reported in 1995–96 accounted for more than half of the almost 5 million local public education employees (figure C). When instructional aides and all library and media staff are added to this figure, almost two-thirds of all employees provided direct instructional services to students. Another 1.3 million personnel delivered student support services such as guidance counseling, and health, attendance, food, and transportation services. The approximately 170,000 school and school district administrators made up about 3 percent of the education staff reported.

The smallest districts (those with fewer than 2,500 students) tended to have fewer teachers for each administrator and more teachers for each student support staff member than the largest districts (those with 25,000 or more students). Thus, among the 34 states that had districts in both the largest and smallest size categories, 47 percent of states reported average teacher/administrator ratios of less than 12 to 1 for their smallest districts, while only 12 percent of states reported ratios this small for their largest districts. Conversely, 41 percent of states reported teacher/support staff ratios of less than 1.5 to 1 for their largest districts, while only 20 percent reported ratios this small for their smallest districts.

School District Revenues and Expenditures

Revenues and current expenditures varied by state and by school district size. In 1994–95, 31 states reported that they had districts with fewer than 12,500 students as well as districts with at least 25,000 students. In about three-fifths of these states, average per pupil revenues and expenditures were higher in the school districts serving at least 25,000 students than in those serving fewer than 12,500 students. However, the highest amounts reported were not in the districts with at least 25,000 students. Expenditures in these large districts ranged from more than $8,000 per pupil in two reporting states to less than $3,500 per pupil in one state. In districts with fewer than 12,500 students, however, the range was from more than $9,000 in two reporting states to less than $4,000 in four states.

Figure C.—Public education elementary and secondary staff totals: School year 1995–96



SOURCE: U.S. Department of Education, National Center for Education Statistics, Common Core of Data (CCD), "State Nonfiscal Survey of Public Elementary/Secondary Education," 1995–96. (Originally published as figure I on p. 46 of the complete report from which this article is excerpted.)

Data sources: The following components of the NCES Common Core of Data (CCD): "Public Elementary/Secondary School Universe Survey," 1995–96; "Local Education Agency Universe Survey," 1994–95 and 1995–96; "State Nonfiscal Survey of Public Elementary/Secondary Education," 1995–96; "National Public Education Financial Survey," 1995–96; and "School District Financial Survey (Form F-33)," 1994–95.

For technical information, see the complete report:

Hoffman, L. (1999). *Key Statistics on Public Elementary and Secondary Schools and Agencies: School Year 1995–96* (NCES 1999–324).

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Postsecondary Education

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Enrollment Patterns

Enrollment Patterns of First-Time Beginning Postsecondary Students

This article was originally published as an Indicator of the Month, taken from* The Condition of Education: 1998. *The sample survey data are from the Beginning Postsecondary Students Longitudinal Study (BPS) and the National Postsecondary Student Aid Study (NPSAS).

Individuals deciding to pursue postsecondary education have a number of options. They can choose, for example, to enroll in a short-term vocational program offered at a less-than-2-year institution, an associate's degree program at a 2-year college, or a bachelor's degree program at a public or private 4-year institution. Alternatively, they can enroll in courses to earn a certificate, develop job skills, or pursue personal interests. Enrollment patterns provide an indication of how students are using the postsecondary education system.

- In 1995–96, about 40 percent of all first-time beginning postsecondary students enrolled in 4-year institutions (25 percent at public institutions and 15 percent at private, not-for-profit institutions) (table 1). Another 46 percent enrolled in public 2-year institutions. The overall enrollment pattern of 1995–96 first-time beginners resembles that of their 1989–90 counterparts.
- In 1995–96, 25 percent of financially dependent students from families with incomes of $60,000 or more enrolled in private, not-for-profit 4-year institutions, a considerably higher percentage than that for students from families with incomes in the $30,000 to $59,999 range (16 percent) or with incomes less than $30,000 (14 percent) (table 1 and figure 1a).
- Among students who enrolled in less-than-4-year institutions, the primary reasons for enrolling varied by age (table 1 and figure 1b). For example, 18- to 19-year-olds were more likely to cite transferring to a 4-year institution as their primary reason for enrolling, while students age 20 or older were more likely to cite obtaining job skills as their primary reason for enrolling.

Table 1.—Percentage distribution of first-time beginning postsecondary students, by type of institution, primary reason for enrolling in a less-than-4-year institution, and selected student and institutional characteristics: Academic years 1989–90 and 1995–96

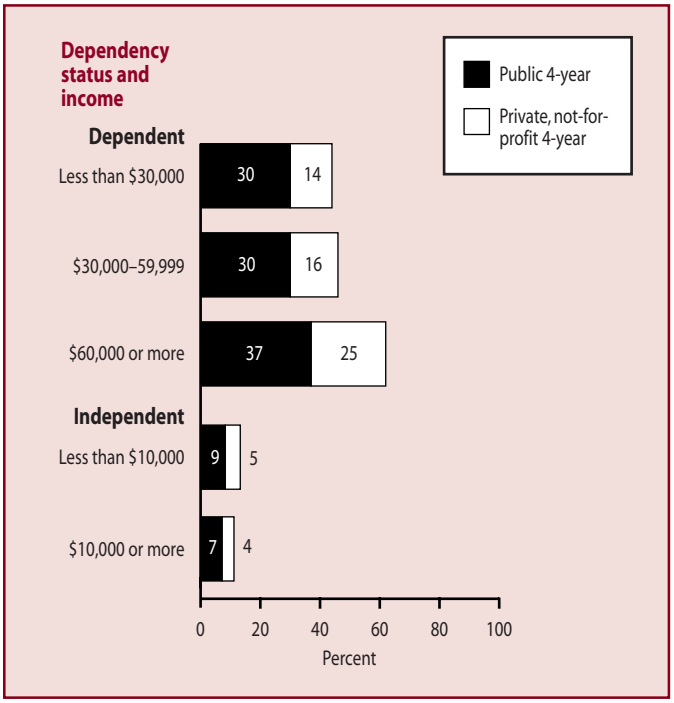
Selected student and institutional characteristics	Type of institution					Primary reason for enrolling in a less-than-4-year institution			
	Public 4-year	Public 2-year	Private, not-for-profit 4-year	Private, for-profit	Other	Obtain job skills	Earn degree or certificate	Transfer to a 4-year institution	Other
	Academic year 1989–90								
Total	27.6	44.8	13.2	10.4	4.0	—	—	—	—
	Academic year 1995–96								
Total	25.4	45.7	14.5	11.3	3.2	33.0	20.3	28.9	17.8
Dependency status and income									
Dependent, less than $30,000	30.0	43.3	14.4	9.7	2.6	25.2	24.1	31.5	19.2
Dependent, $30,000–59,999	30.1	47.0	16.4	4.6	2.0	21.5	18.6	41.0	18.9
Dependent, $60,000 or more	37.3	34.3	24.8	2.5	1.2	13.2	16.3	56.0	14.5
Independent, less than $10,000	8.6	46.4	4.7	34.9	5.4	50.3	18.4	14.6	16.8
Independent, $10,000 or more	7.1	61.8	4.1	19.9	7.1	50.9	22.4	8.4	18.4
Age as of 12/31/95									
18–19	32.5	41.2	18.9	5.7	1.7	20.2	20.3	43.2	16.3
20–23	19.0	48.6	7.8	19.8	4.9	39.2	23.5	17.1	20.1
24 or older	6.7	58.0	4.3	24.0	7.0	54.4	18.8	8.1	18.6
Type of institution									
Public 2-year	—	100.0	—	—	—	22.6	21.4	36.7	19.3
Private, for-profit	—	—	—	100.0	—	69.0	16.6	1.3	13.0

—Not available or not applicable.

NOTE: Details may not add to 100 due to rounding.

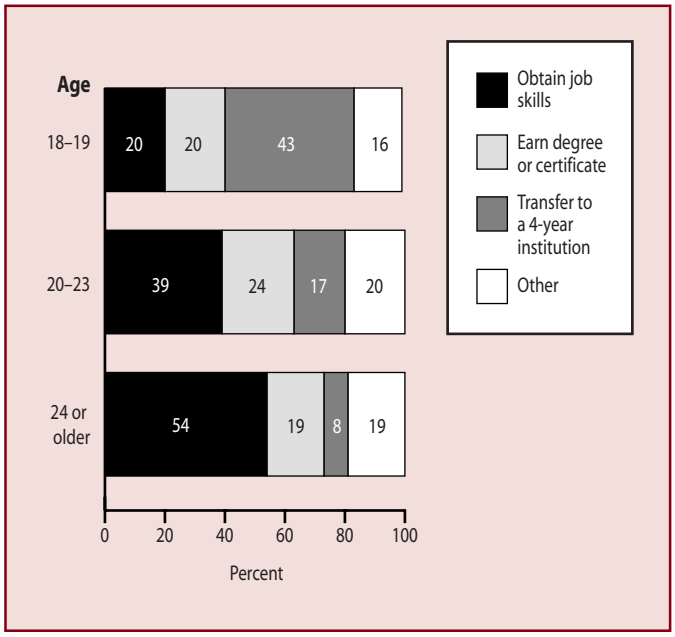
SOURCE: U.S. Department of Education, National Center for Education Statistics, Beginning Postsecondary Students Longitudinal Study (BPS:1990/1994) and National Postsecondary Student Aid Study (NPSAS:1996).

Figure 1a.—Percentage of first-time beginning postsecondary students enrolling in public and private, not-for-profit 4-year institutions, by dependency status and income: Academic year 1995–96



SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study (NPSAS:1996).

Figure 1b.—Percentage distribution of first-time beginning postsecondary students in less-than-4-year institutions, by primary reason for enrolling and age: Academic year 1995–96



SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study (NPSAS:1996).

Data sources: NCES Beginning Postsecondary Students Longitudinal Study (BPS:1990/1994) and National Postsecondary Student Aid Study (NPSAS:1996).

For technical information, see

Wirt, J., Snyder, T., Sable, J., Choy, S.P., Bae, Y., Stennett, J., Gruner, A., and Perie, M. (1998). *The Condition of Education: 1998* (NCES 98–013).

For complete supplemental and standard error tables, see either

- the electronic version of *The Condition of Education: 1998 (http://nces.ed.gov/pubs98/condition98/index.html)*, or
- volume 2 of the printed version (1999): *The Condition of Education: 1998 Supplemental and Standard Error Tables* (NCES 1999–025).

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Employer Aid for Postsecondary Education

John B. Lee and Suzanne B. Clery

This article was excerpted from the Highlights and Introduction of the report of the same name. The sample survey data are from the National Postsecondary Student Aid Study (NPSAS) and the National Household Education Survey (NHES).

Introduction

Employers are interested in helping their employees continue their education. According to the National University Continuing Education Association (NUCEA), 90 percent of companies currently offer continuing education benefits and 97 percent plan to offer them by the year 2000 (NUCEA 1996). Another survey found that 75 percent of the surveyed employers provided tuition benefits (University of Pennsylvania 1997). NUCEA reports that the benefit ranks above child care, flextime, and family leave benefits in popularity with employees.

This report examines the utilization of employer aid. This includes the description of the types of employees and educational and training programs that employers support. Two National Center for Education Statistics (NCES) data sets provided the data for this report: the "Adult Education" component of the 1995 National Household Education Survey (NHES:1995) and the 1995–96 National Postsecondary Student Aid Survey (NPSAS:1996). NHES provides information describing all educational activities of adults, including enrollment in credential, adult basic skills, work-related, and other structured training or educational programs. NPSAS, which represents students of all ages and backgrounds at all types of accredited postsecondary institutions, provides detailed information about how employers help students pay for their education if they attended a postsecondary institution.

Highlights

The central purpose of this report is to describe the use of employer-provided financial aid by students seeking a degree or credential. According to NHES, 13 percent of adults participated in credential programs in 1995. That was less than either the 21 percent of adults who participated in work-related programs or the 20 percent who participated in other structured programs. Forty-one percent of the adults in credential programs were seeking bachelor's degrees (figure A). Another 19 percent were seeking associate's degrees. In some cases, a credential program may include professional certification.

Employer aid for different types of employees

One-half of adults who were executives, administrators, and managers who enrolled in credential programs received financial assistance from their employers. This compared with 10 percent of the employees who were in marketing and sales, and 4 percent of those who were handlers, cleaners, helpers, or laborers.

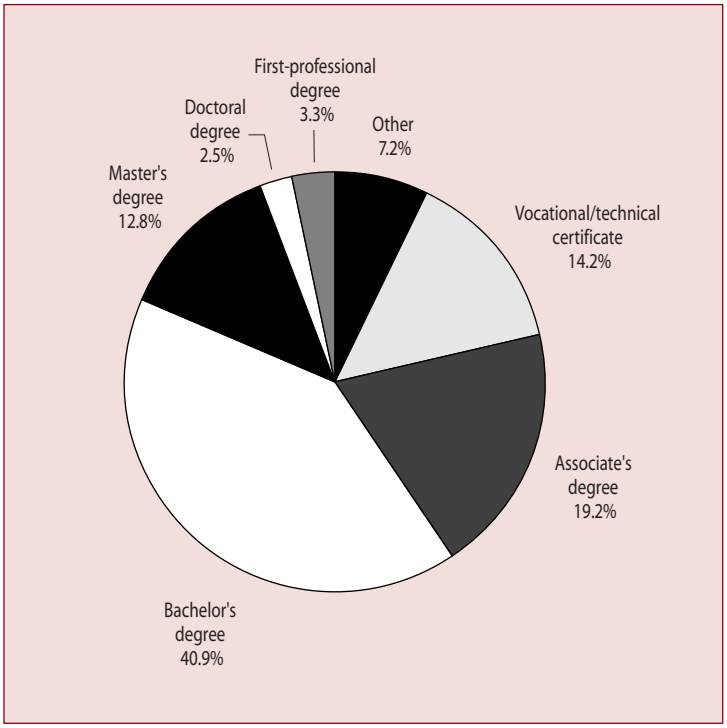
Seventy-two percent of adults employed as engineers, surveyors, or architects who enrolled in credential programs received financial assistance from their employers. That was more than those who were social scientists or lawyers; teachers, except for postsecondary; writers, artists, entertainers, or athletes; health technologists; in marketing and sales; administrative support; service; construction; production; transportation and material moving; or handlers, cleaners, helpers, and laborers.

Adults who worked part time were less likely to receive employer financial aid if they enrolled in credential programs than those who worked full time. Seven percent of adults who worked part time received financial assistance from their employers if they took credential programs compared with 37 percent of those who worked full time.

Employer aid for undergraduates

NPSAS data indicate that 6 percent of all undergraduates received financial aid from their employer. Four percent of the undergraduates who perceived themselves as students who worked received employer financial aid compared with 25 percent of those who defined themselves as undergraduate employees. The following findings are limited to undergraduate employees (employed undergraduates who considered themselves primarily employees rather than students).

Figure A.—Percentage distribution of adults enrolled in credential programs according to highest level program enrolled in: 1995



NOTE: Percentages may not sum to 100 percent due to rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Household Education Survey (NHES:1995), 1995 Adult Education Data Analysis System. (Originally published as figure 3 on p.11 of the complete report from which this article is excerpted.)

The control of the institution was related to the probability of receiving employer financial aid (table A). Forty-six percent of the undergraduate employees who attended private, not-for-profit institutions received employer financial aid compared with 23 percent of those who attended public institutions.

The level of program in which students were enrolled also related to the probability of receiving employer financial aid (table A). Thirty-four percent of the undergraduate employees who were enrolled in bachelor's degree programs received employer financial aid compared with 23 percent of those enrolled in associate's degree programs, and 18 percent of those enrolled in certificate programs. Undergraduate employees who enrolled in business programs were more likely to receive employer financial aid than were those in the humanities, social and behavioral sciences, education, and life sciences.

The average employer financial aid amount awarded to undergraduate employees was $932, and ranged from $432 for those attending institutions with tuition and fees below $1,000 to $3,437 for those attending institutions with tuition and fees between $5,000 and $7,499 (table A). Employer financial aid recipients in public institutions received $510 compared with $2,321 received by those in private, not-for-profit institutions.

Table A.—Percentage of undergraduate employees* who received employer financial aid, and average employer financial aid award received, by selected characteristics: 1995–96

	Received employer financial aid	Average employer financial aid received
Total	24.9%	$932
Degree program during first term		
Certificate or award	18.2	850
Associate's degree	23.0	490
Bachelor's degree	33.8	1,890
Undergraduate, non-degree program	28.8	359
Undergraduate field of study		
Humanities	14.6	875
Social, behavioral sciences	15.1	1,399
Life sciences	14.2	—
Physical sciences	—	—
Mathematics	—	—
Computer, information science	35.9	1,194
Engineering	34.7	806
Education	14.7	—
Business, management	34.9	1,239
Health	23.9	1,134
Vocational, technical	21.2	—
Other technical, professional	18.9	666
Institutional control		
Public	23.0	510
Private, not-for-profit	45.6	2,321
Private, for-profit	10.9	2,704
Tuition and fees for terms attended		
Less than $1,000	24.5	432
$1,000–2,499	25.6	1,399
$2,500–4,999	30.5	2,781
$5,000–7,499	23.3	3,437
$7,500–9,999	15.4	—
$10,000 or more	26.8	—

—Sample size too small for a reliable estimate.

*Undergraduate employees are employed undergraduates who considered themselves primarily employees who enrolled in school, about 36 percent of all employed undergraduates.

NOTE: Total is not within the range of some of the subgroup estimates due to the number of observations with missing values within the subgroup.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Study (NPSAS:1996), Undergraduate Data Analysis System. (Taken from table 11 on pp. 53–57 of the complete report from which this article is excerpted.)

Employer aid for graduate students

Thirteen percent of graduate and first-professional students (this category includes doctors, lawyers, and theologians) received employer financial aid (table B). Master's degree students were more likely to receive employer financial aid than were doctoral or first-professional students. Sixteen percent of master's degree students received employer financial aid compared with 5 percent of the doctoral and first-professional students.

The average employer financial aid amount awarded to graduate students was $2,451 (table B). Male recipients received a higher average amount of employer financial aid than females. Males received an average employer financial aid award of $2,987 compared with $1,980 received by females.

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Table B.—Percentage of graduate students who received employer financial aid, and average employer financial aid award received, by gender and degree program: 1995–96

	Received employer financial aid	Average employer financial aid received
Total	12.5%	$2,451
Gender		
Male	12.6	2,987
Female	12.5	1,980
Degree program during first term 1995–96		
Postbaccalaureate certificate	13.0	1,524
Master's degree	15.9	2,620
Doctoral or first-professional degree	4.8	3,357
Other graduate program	12.2	1,272

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Postsecondary Student Aid Survey (NPSAS:1996), Graduate and First-Professional Data Analysis System. (Taken from table 13 on pp. 61–64 of the complete report from which this article is excerpted.)

Data sources: The NCES National Postsecondary Student Aid Study (NPSAS:1996) and National Household Education Survey (NHES:1995), "Adult Education" component.

For technical information, see the complete report:

Lee, J.B., and Clery, S.B. (1999). *Employer Aid for Postsecondary Education* (NCES 1999–181).

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New Full-Time Faculty

New Entrants to the Full-Time Faculty of Higher Education Institutions

Martin J. Finkelstein, Robert Seal, and Jack H. Schuster

This article was excerpted from the Highlights and Sections 1 and 6 of the Statistical Analysis Report of the same name. The sample survey data are from the National Study of Postsecondary Faculty (NSOPF).

Introduction

Starting in the mid-1950s, many thousands of faculty members, often without doctoral degrees, were hired to staff the rapid expansion of higher education (Cartter 1976). By the late 1960s, however, a new cohort of faculty, more research oriented than their predecessors, began to replace them. It is these "teacher-scholars" who have largely reshaped our current system in the image of their own collective career aspirations and values (Jencks and Riesman 1968). Now a new academic generation is beginning to emerge as their successors, a product of different pressures and priorities. In some respects, they can expect to be less influential in the face of powerfully determinative demographic, economic, and technological forces that are transforming higher education. And yet, despite the environmental constraints, this cohort of recent hires, in view of its large size, is certain to play an influential, long-term role in how our national higher education system evolves. Accordingly, if we understand who these new faculty members are and what values they bring to their classrooms and laboratories, we will have provided an important lens through which to view higher education's future path.

The 1993 National Study of Postsecondary Faculty (NSOPF:1993) permits the delineation of this new academic generation—which is defined as the cohort of full-time faculty members in the first 7 years of their academic careers[1] —and allows us to examine how this subgroup of faculty compares to a more senior cohort of full-time faculty on a wide variety of demographic and career variables. Faculty described in this report represent a subgroup of faculty and instructional staff included in NSOPF:1993, namely, those full-time faculty whose principal activity during the fall of 1992 was teaching, research, or administration (at the level of program director, department chairperson, or dean). The remainder of this article highlights key findings from the report.

[1]The terms "new academic generation cohort," "new entrants," "new cohort," or "new faculty" are used interchangeably in this report to depict these faculty.

Highlights

Cohort size and distribution

- About 172,000 full-time faculty were in the first 7 years of an academic career, constituting one-third of the entire full-time faculty (table A).
- The new cohort disproportionately represented fields outside the liberal arts: 51 percent of the new cohort but only 45 percent of the senior cohort had their programmatic home outside the humanities, the social and natural sciences, and the fine arts.

Demographic characteristics

- Females constituted 41 percent of the new faculty, 28 percent of the senior cohort, and 33 percent of the full-time faculty overall.
- Racial/ethnic minorities constituted one-sixth (17 percent) of the new cohort, one-ninth of the senior cohort (12 percent), and 13 percent of the full-time faculty overall.
- Faculty who are not native-born U.S. citizens constituted one-sixth (17 percent) of the new cohort (25 percent in the natural sciences), one-ninth (12 percent) of the senior cohort (14 percent in the natural sciences), and 13 percent of the full-time faculty overall.

Educational background and work history

- New faculty, like senior faculty, earned their highest degree in their early thirties (ages 31–32), but did not assume their current position, on average, until about 7 years later, compared to about 4 years later for the senior faculty.
- New faculty were more likely than senior faculty to have had prior work experience and, indeed, work experience outside academe prior to assuming the position they held in the fall of 1992.

Types of appointments and job/career satisfaction

- One-third (33 percent) of the new cohort were in non-tenure-eligible positions as compared to one-

sixth of the senior faculty (16 percent), and females among new cohort faculty were more likely than males to hold such non-tenure-eligible appointments (40 versus 28 percent, respectively).

- New faculty were more likely to be dissatisfied with their job security and their prospects for advancement than senior faculty, but five out of six of both new and senior cohort faculty were satisfied with their careers overall.

Implications for the Future Faculty and Their Work

In considering the implications of the changing characteristics of the new generation of academics, the starting point must be the large size of this cohort. Because the new-entrant cohort is so large—fully one-third of all full-time faculty—it is likely to have a much more pervasive influence in shaping academic values and practices in the years ahead than if the new cohort had been substantially smaller. What, then, are the implications that can be drawn from this sizable cohort's characteristics?

First, the new cohort is demographically different from the senior cohort. White males were the dominant presence in the older cohort. With the increasing presence of women and minority faculty, the white males' "share" has shrunk—although they still maintain their overall plurality.

Second, the proportion of the faculty within the traditional arts and science fields is shrinking, with concomitant expansion in the proportion of faculty in the professions and occupational programs. The liberal arts core of higher education is declining numerically, and that will likely mean a weakening among the faculty of the values associated with doctoral education in the traditional arts and sciences.

Third, the proportion of faculty who are tenurable (either tenured or tenure-track) is shrinking. As increasing numbers of faculty appointments are made in other categories—some short term, others longer term, but all less closely coupled with the host institution and its future—the proportion of tenure-track positions is contracting.[2]

Fourth, it appears that different sectors within higher education are being affected differently by prevailing conditions. That is, data from NSOPF:1993 suggested that

[2]A parallel development is the growing number of faculty and instructional staff who are employed part time—an estimated 435,735 in the fall of 1992 (NSOPF:1993 unpublished data).

Table A.—Percentage distribution of full-time faculty, by faculty seniority and type and control of institution: Fall 1992

Type and control of institution	All faculty[1]		New faculty[2]		Senior faculty[2]		New faculty as percent of all faculty
	Number	Percent	Number	Percent	Number	Percent	
All institutions	514,976	100.0	172,319	100.0	342,657	100.0	33.5
All research institutions	141,593	27.5	50,867	29.5	90,727	26.5	35.9
Public	108,309	21.0	37,085	21.5	71,224	20.8	34.2
Private	33,284	6.5	13,782	8.0	19,502	5.7	41.4
All other doctorate-granting institutions[3]	76,207	14.8	26,361	15.3	49,845	14.6	34.6
Public	50,581	9.8	17,028	9.9	33,553	9.8	33.7
Private	25,626	5.0	9,333	5.4	16,293	4.8	36.4
All comprehensive institutions	131,418	25.5	39,929	23.2	91,490	26.7	30.4
Public	93,877	18.2	28,017	16.3	65,860	19.2	29.8
Private	37,541	7.3	11,912	6.9	25,630	7.5	31.7
Private liberal arts institutions	37,426	7.3	12,662	7.4	24,764	7.2	33.8
Public 2-year institutions	103,529	20.1	33,283	19.3	70,246	20.5	32.2
All other institutions[4]	24,803	4.8	9,217	5.4	15,586	4.6	37.2

[1]Includes full-time faculty who reported their principal activity during fall 1992 was teaching, research, or selected administration activities.

[2]New full-time faculty are defined as having 7 years or less in a full-time faculty position, whereas senior faculty are those who had more than 7 years in a full-time faculty position.

[3]Includes medical schools.

[4]Includes public liberal arts, private 2-year, and other specialized institutions except medical schools.

NOTE: Details may not add to total because of rounding.

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Study of Postsecondary Faculty (NSOPF:1993). (Originally published as table 2.1 on p. 7 of the complete report from which this article is excerpted.)

faculty in some types of institutions were faring better than their counterparts in other types of institutions. In particular, new faculty at 2-year community colleges defied the trend of declining job satisfaction perceptible in other institutional sectors: they were as satisfied as their senior, more established colleagues. Moreover, faculty at 2-year community colleges were the most satisfied with their salary and benefits. Faculty at private liberal arts colleges were least satisfied overall—senior as well as new entrants.

In sum, the faculty responses to NSOPF:1993 provide a lens through which the future of the academic profession and, indeed, of higher education can be viewed. The lens may be more translucent than clear; unpredictable events will intervene to recast higher education's future. But the view from the vantage point afforded by this survey presages a faculty more richly diverse in their origins and in the careers they are pursuing.

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Data source: The NCES National Study of Postsecondary Faculty (NSOPF:1993).

For technical information, see the complete report:

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Salaries and Tenure of Full-Time Instructional Faculty on 9- and 10-Month Contracts: 1997–1998

Patricia Q. Brown

This article was originally published as an E.D. Tabs report. The universe data are from the "Salaries, Tenure, and Fringe Benefits of Full-Time Instructional Faculty Survey," part of the NCES Integrated Postsecondary Education Data System (IPEDS). The technical appendixes from the original report have been omitted.

Introduction

This report presents detailed tabulations for academic year 1997–98 of the number, tenure, and average salaries of full-time instructional faculty on 9- and 10-month contracts. These data are from the "Salaries, Tenure, and Fringe Benefits of Full-Time Instructional Faculty Survey" on 9- and 10-month and 11- and 12-month contracts; this survey is a component of the Integrated Postsecondary Education Data System (IPEDS) of the U.S. Department of Education's National Center for Education Statistics (NCES).

NCES has collected data on full-time instructional faculty since 1968. From 1968 to 1985, these data were collected under the Higher Education General Information Surveys (HEGIS). HEGIS was limited to higher education institutions that were accredited at the college level by an agency recognized by the U.S. Secretary of Education. In 1986, HEGIS was superseded by IPEDS, which collects data from all postsecondary institutions. Although IPEDS encompasses the entire spectrum of postsecondary education institutions, data on the number, salary, tenure, and fringe benefits of full-time instructional faculty have been collected only from the types of institutions that were formerly in the HEGIS universe.

Data in this report present faculty salaries for the 1997–98 academic year at all degree-granting postsecondary institutions that are eligible for Title IV federal financial aid. The U.S. Department of Education no longer distinguishes among institutions based upon accreditation status, and NCES cannot obtain updated lists of "higher education" institutions as defined in previous reports. In lieu of this designation, NCES has subset the postsecondary institutional universe on the basis of whether or not institutions grant a degree, information that is available directly from IPEDS data. Additionally, because eligibility for Title IV federal financial aid has reporting implications and is of particular policy interest, the postsecondary institution universe is further subdivided into those schools that are eligible for Title IV federal financial aid and those that are not eligible. Title IV eligibility is based on lists of eligible institutions maintained by the Office of Postsecondary Education, U.S. Department of Education.

Average Faculty Salaries in 1997–98

In 1997–98, the salaries of full-time instructional faculty on 9- and 10-month contracts averaged $52,335 in degree-granting institutions for all ranks combined (tables 1 and 5). Average salaries varied by academic rank and ranged from $68,731 for professors to $32,449 for instructors on 9- and 10-month contracts.

For all ranks combined, average salaries were $11,000 higher at 2-year public institutions than at 2-year private, non-profit institutions. When examined by academic rank, the difference increased to about $15,400 for professors, about $12,400 for associate professors, and almost $9,300 for assistant professors (table 1).

In 1997–98, degree-granting institutions reported that 60 percent of the total faculty on 9- and 10-month contracts were tenured (233,336 out of 386,495). When examined by gender, men constituted 71 percent of the tenured faculty at degree-granting institutions. California reported that 74 percent of its 37,048 full-time instructional faculty on 9- and 10-month contracts were tenured. California also reported the largest number of full-time instructional faculty at degree-granting institutions (tables 2 through 4).

Average salaries for all ranks combined for faculty in private, non-profit degree-granting institutions were higher than for faculty in public degree-granting institutions. By rank, however, only professors and lecturers earned more in private, non-profit institutions than in public institutions. Associate and assistant professors, instructors, and those with no academic rank had higher average salaries in public institutions than in private, non-profit institutions (tables 6 and 7).

The salaries of full-time instructional faculty on 9- and 10-month contracts in public institutions in California, Connecticut, and New Jersey averaged over $60,000 per

year. In contrast, the salaries of full-time instructional faculty on 9- and 10-month contracts in public institutions in North Dakota and South Dakota were under $40,000 per year (table 6).

Faculty in 4-year degree-granting institutions had significantly higher salaries than those in 2-year degree-granting institutions. On average, faculty in 4-year schools earned over $8,000 more per year than those in 2-year institutions. Those faculty in the academic ranks of professor, associate professor, and assistant professor had higher average salaries in 4-year institutions than in 2-year institutions, while those faculty in the ranks of instructor and lecturer and those with no academic rank had higher average salaries in 2-year than in 4-year institutions (tables 8 through 11).

Among the states, average salaries for full-time instructional faculty in public 4-year degree-granting institutions were higher in California than in any other state. South Dakota was the only state where full-time instructional faculty in public 4-year institutions earned an average salary of less than $40,000 (table 9).

At degree-granting institutions, male faculty earned about $10,300 more than female faculty, all ranks combined. This disparity is greater than any difference within a rank because relatively few women are reported in the senior faculty ranks. Within faculty ranks, the differential between men's and women's salaries was highest among professors and decreased with decreasing rank. Among professors, men's salaries averaged about $8,500 more than women's salaries; among associate professors, the difference in average salaries was about $3,400; among assistant professors, it was about $2,500; and among instructors, it was less than $1,100 (tables 12 and 13).

Data source: The NCES Integrated Postsecondary Education Data System, "Salaries, Tenure, and Fringe Benefits of Full-Time Instructional Faculty Survey" (IPEDS-SA:1997–98).

For technical information, see the complete report:

Brown, P.Q. (1999). *Salaries and Tenure of Full-Time Instructional Faculty on 9- and 10-Month Contracts: 1997–1998* (NCES 1999–193).

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Table 1.—Average salaries of full-time instructional faculty, on 9- and 10-month contracts, in Title IV eligible degree-granting institutions, by academic rank, level, and control: Academic year 1997–98

Control and level	All ranks	Professor	Associate professor	Assistant professor	Instructor	Lecturer	No academic rank
Total	$52,335	$68,731	$50,828	$41,830	$32,449	$35,484	$45,268
4-year	54,211	70,441	51,351	42,105	31,787	35,431	38,644
2-year	45,652	54,323	45,811	39,306	34,238	36,608	45,801
Public	51,638	66,937	50,948	42,147	32,627	34,608	45,812
4-year	54,114	69,195	51,732	42,582	31,519	34,516	38,614
2-year	45,919	54,488	46,078	39,623	34,713	36,199	45,993
Private							
Non-profit	54,169	72,627	50,601	41,266	32,121	38,376	39,002
4-year	54,443	72,747	50,701	41,357	32,325	38,376	39,385
2-year	34,920	39,135	33,721	30,335	26,638	—	37,814
For-profit	27,441	34,422	29,505	23,197	22,036	33,887	28,145
4-year	29,027	34,693	30,173	24,843	28,105	—	29,709
2-year	25,788	(*)	27,232	22,022	20,883	42,226	22,022

—Not applicable.

*Number of faculty reported in this category was too small to yield reliable results.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Salaries, Tenure, and Fringe Benefits of Full-Time Instructional Faculty Survey" (IPEDS-SA: 1997–98).

Table 2.—Number of tenured full-time instructional faculty, on 9- and 10-month contracts, in Title IV eligible degree-granting institutions, by academic rank, level, and control: Academic year 1997–98

Control and level	All ranks	Professor	Associate professor	Assistant professor	Instructor	Lecturer	No academic rank
Total	233,336	114,411	79,783	14,167	1,503	140	23,332
4-year	188,465	103,823	73,063	10,347	545	140	547
2-year	44,871	10,588	6,720	3,820	958	0	22,785
Public	170,685	79,469	56,163	10,994	1,437	109	22,513
4-year	126,327	68,941	49,493	7,207	485	109	92
2-year	44,358	10,528	6,670	3,787	952	0	22,421
Private							
Non-profit	62,638	34,938	23,620	3,173	66	31	810
4-year	62,134	34,878	23,570	3,140	60	31	455
2-year	504	60	50	33	6	0	355
For-profit	13	4	0	0	0	0	9
4-year	4	4	0	0	0	0	0
2-year	9	0	0	0	0	0	9

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Salaries, Tenure, and Fringe Benefits of Full-Time Instructional Faculty Survey" (IPEDS-SA: 1997–98).

Table 3.—Number of full-time instructional faculty, on 9- and 10-month contracts, in Title IV eligible degree-granting institutions, by academic rank and state: Academic year 1997–98

State	All ranks	Professor	Associate professor	Assistant professor	Instructor	Lecturer	No academic rank
50 States and D.C.	386,495	121,173	96,410	87,414	20,044	9,226	52,228
Alabama	6,086	1,252	1,437	1,389	502	55	1,451
Alaska	688	185	211	219	29	30	14
Arizona	5,556	1,409	1,149	813	155	216	1,814
Arkansas	3,639	796	770	854	444	33	742
California	37,048	13,965	5,897	4,805	806	667	10,908
Colorado	5,644	2,031	1,421	1,172	294	95	631
Connecticut	5,129	2,114	1,385	1,320	172	113	25
Delaware	1,289	354	387	263	74	18	193
District of Columbia	3,151	1,159	987	747	168	63	27
Florida	12,278	4,017	3,115	2,642	997	133	1,374
Georgia	8,983	2,268	2,610	3,211	694	86	114
Hawaii	1,718	562	443	456	257	0	0
Idaho	2,052	515	403	419	111	12	592
Illinois	18,133	4,869	3,856	3,572	714	352	4,770
Indiana	9,705	2,932	2,764	2,600	445	302	662
Iowa	5,486	1,616	1,463	1,285	329	15	778
Kansas	4,950	1,130	1,134	1,046	194	57	1,389
Kentucky	5,510	1,643	1,847	1,560	312	134	14
Louisiana	6,547	1,759	1,655	1,930	1,071	34	98
Maine	1,840	437	595	441	48	28	291
Maryland	6,685	2,291	1,877	1,667	302	315	233
Massachusetts	14,979	6,718	3,949	3,184	430	439	259
Michigan	12,680	4,070	3,101	2,560	310	485	2,154
Minnesota	8,555	2,312	1,785	1,545	318	21	2,574
Mississippi	4,497	736	671	889	363	73	1,765
Missouri	7,868	2,285	2,122	2,193	473	94	701
Montana	1,645	477	383	403	129	8	245
Nebraska	3,046	775	778	817	133	91	452
Nevada	1,470	535	323	269	180	82	81
New Hampshire	2,058	826	694	474	45	6	13
New Jersey	8,651	3,106	2,393	2,451	501	151	49
New Mexico	2,474	654	627	648	141	109	295
New York	30,812	11,657	8,747	7,340	1,271	1,181	616
North Carolina	10,325	2,858	2,644	2,427	291	483	1,622
North Dakota	1,431	233	444	492	127	76	59
Ohio	15,681	5,037	5,031	4,283	874	122	334
Oklahoma	4,833	1,243	1,062	1,365	505	43	615
Oregon	4,800	1,117	949	805	227	45	1,657
Pennsylvania	20,646	6,863	6,140	5,876	1,267	319	181
Rhode Island	2,556	1,139	748	554	64	51	0
South Carolina	5,945	1,471	1,324	1,192	369	89	1,500
South Dakota	1,440	301	330	412	155	(*)	239
Tennessee	7,826	2,520	2,356	2,081	770	55	44
Texas	23,550	6,399	5,115	4,947	1,418	1,558	4,113
Utah	3,768	1,223	1,038	954	225	78	250
Vermont	1,495	481	431	328	57	73	125
Virginia	10,135	3,225	3,287	2,741	694	118	70
Washington	7,732	1,901	1,355	1,241	250	205	2,780
West Virginia	2,591	839	803	734	174	40	(*)
Wisconsin	9,873	2,664	2,181	1,632	97	303	2,996
Wyoming	1,016	204	193	166	68	67	318

*Number of faculty reported in this category was too small to yield reliable results.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Salaries, Tenure, and Fringe Benefits of Full-Time Instructional Faculty Survey" (IPEDS-SA: 1997–98).

Table 4.—Total number of full-time instructional faculty on 9- and 10-month contracts, in Title IV eligible degree-granting institutions, by tenure status, state, and sex: Academic year 1997–98

State	Men with tenure	Total men	Women with tenure	Total women	Faculty with tenure	Total faculty	Percent faculty with tenure
50 States and D.C.	165,922	245,200	67,414	141,295	233,336	386,495	60.4
Alabama	2,582	3,739	1,289	2,347	3,871	6,086	63.6
Alaska	265	426	124	262	389	688	56.5
Arizona	2,365	3,456	1,042	2,100	3,407	5,556	61.3
Arkansas	1,195	2,193	435	1,446	1,630	3,639	44.8
California	18,586	23,648	8,888	13,400	27,474	37,048	74.2
Colorado	2,555	3,734	840	1,910	3,395	5,644	60.2
Connecticut	2,404	3,354	940	1,775	3,344	5,129	65.2
Delaware	506	777	192	512	698	1,289	54.2
District of Columbia	1,418	1,993	596	1,158	2,014	3,151	63.9
Florida	5,399	7,781	2,599	4,497	7,998	12,278	65.1
Georgia	3,191	5,385	1,396	3,598	4,587	8,983	51.1
Hawaii	798	1,072	378	646	1,176	1,718	68.5
Idaho	986	1,462	288	590	1,274	2,052	62.1
Illinois	8,511	11,617	3,616	6,516	12,127	18,133	66.9
Indiana	4,097	6,298	1,314	3,407	5,411	9,705	55.8
Iowa	2,249	3,496	852	1,990	3,101	5,486	56.5
Kansas	2,102	3,175	865	1,775	2,967	4,950	59.9
Kentucky	2,343	3,342	1,142	2,168	3,485	5,510	63.2
Louisiana	2,516	3,935	1,075	2,612	3,591	6,547	54.8
Maine	702	1,164	273	676	975	1,840	53.0
Maryland	2,744	4,094	1,108	2,591	3,852	6,685	57.6
Massachusetts	6,714	9,594	2,812	5,385	9,526	14,979	63.6
Michigan	5,665	8,376	1,974	4,304	7,639	12,680	60.2
Minnesota	2,905	5,389	1,187	3,166	4,092	8,555	47.8
Mississippi	947	2,360	318	2,137	1,265	4,497	28.1
Missouri	3,170	5,041	1,106	2,827	4,276	7,868	54.3
Montana	680	1,102	216	543	896	1,645	54.5
Nebraska	1,231	1,970	355	1,076	1,586	3,046	52.1
Nevada	647	962	246	508	893	1,470	60.7
New Hampshire	815	1,306	315	752	1,130	2,058	54.9
New Jersey	4,108	5,434	1,961	3,217	6,069	8,651	70.2
New Mexico	890	1,525	367	949	1,257	2,474	50.8
New York	14,545	19,669	6,332	11,143	20,877	30,812	67.8
North Carolina	3,784	6,369	1,284	3,956	5,068	10,325	49.1
North Dakota	512	931	173	500	685	1,431	47.9
Ohio	7,423	10,102	2,887	5,579	10,310	15,681	65.7
Oklahoma	1,777	3,076	676	1,757	2,453	4,833	50.8
Oregon	1,752	2,890	857	1,910	2,609	4,800	54.4
Pennsylvania	9,786	13,415	3,781	7,231	13,567	20,646	65.7
Rhode Island	1,199	1,668	501	888	1,700	2,556	66.5
South Carolina	2,048	3,701	631	2,244	2,679	5,945	45.1
South Dakota	464	932	149	508	613	1,440	42.6
Tennessee	3,388	5,005	1,391	2,821	4,779	7,826	61.1
Texas	8,749	14,739	3,092	8,811	11,841	23,550	50.3
Utah	1,766	2,676	470	1,092	2,236	3,768	59.3
Vermont	658	946	233	549	891	1,495	59.6
Virginia	3,893	6,504	1,217	3,631	5,110	10,135	50.4
Washington	3,591	4,880	1,612	2,852	5,203	7,732	67.3
West Virginia	1,122	1,624	456	967	1,578	2,591	60.9
Wisconsin	3,744	6,227	1,417	3,646	5,161	9,873	52.3
Wyoming	435	646	146	370	581	1,016	57.2

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Salaries, Tenure, and Fringe Benefits of Full-Time Instructional Faculty Survey" (IPEDS-SA: 1997–98).

Table 5.—Average salaries of full-time instructional faculty, on 9- and 10-month contracts, in Title IV eligible degree-granting institutions, by academic rank and state: Academic year 1997–98

State	All ranks	Professor	Associate professor	Assistant professor	Instructor	Lecturer	No academic rank
50 States and D.C.	$52,335	$68,731	$50,828	$41,830	$32,449	$35,484	$45,268
Alabama	42,623	57,650	44,630	37,475	29,136	28,230	37,810
Alaska	50,323	63,573	51,876	42,181	36,725	36,185	37,649
Arizona	54,270	72,098	52,924	43,755	28,458	36,534	50,305
Arkansas	40,769	55,144	44,301	37,516	29,013	21,931	33,298
California	61,445	74,949	56,322	46,453	41,307	46,096	55,956
Colorado	51,259	65,424	50,068	41,597	32,636	31,589	37,931
Connecticut	62,828	80,729	56,862	45,959	36,969	45,297	27,468
Delaware	59,204	82,313	59,320	46,829	37,060	35,401	44,156
District of Columbia	60,982	81,562	55,283	45,327	36,936	32,495	35,139
Florida	48,972	61,430	48,155	41,091	33,990	33,282	41,945
Georgia	49,710	67,309	50,678	41,319	31,682	34,137	35,253
Hawaii	53,447	67,444	53,368	45,632	36,846	—	—
Idaho	44,230	53,609	44,231	38,748	30,936	29,790	42,734
Illinois	54,478	73,613	52,048	43,579	30,038	30,860	50,476
Indiana	50,061	67,495	49,539	41,216	28,686	33,139	31,846
Iowa	48,638	64,986	48,490	39,376	32,032	37,054	37,502
Kansas	43,207	58,627	44,481	37,443	30,402	29,801	36,303
Kentucky	44,994	58,158	43,634	37,550	28,821	28,239	29,716
Louisiana	45,204	61,816	46,852	38,839	28,740	23,423	32,049
Maine	45,794	60,592	47,062	37,872	31,854	36,750	36,155
Maryland	52,748	67,998	50,505	42,196	36,176	32,308	45,485
Massachusetts	61,423	75,341	55,929	46,607	34,528	46,191	36,783
Michigan	55,658	69,270	53,317	44,032	35,062	33,801	55,011
Minnesota	49,488	65,029	48,710	39,582	31,990	29,704	44,339
Mississippi	41,264	56,033	45,617	38,188	29,078	22,998	38,263
Missouri	48,490	63,922	49,301	40,040	32,701	30,281	35,260
Montana	42,084	53,773	43,688	37,089	31,752	22,010	31,135
Nebraska	45,754	62,502	47,669	38,376	31,188	27,254	35,089
Nevada	53,588	64,307	56,625	45,461	38,754	36,966	47,458
New Hampshire	52,273	63,641	48,876	40,249	30,990	39,517	29,259
New Jersey	62,568	82,220	60,766	46,822	35,005	39,274	46,036
New Mexico	42,969	56,854	44,642	37,125	30,572	31,040	31,800
New York	58,156	74,413	55,107	44,575	34,360	40,124	39,329
North Carolina	48,984	67,523	49,556	41,068	31,381	34,833	34,603
North Dakota	38,427	50,175	40,428	36,331	30,131	26,967	27,076
Ohio	51,895	67,346	50,268	41,029	32,372	29,856	41,869
Oklahoma	43,955	57,346	45,949	39,396	31,419	26,228	35,098
Oregon	46,591	59,609	46,014	38,934	32,033	26,094	44,418
Pennsylvania	56,451	74,225	54,812	44,269	34,260	33,878	28,738
Rhode Island	56,456	68,472	51,666	42,690	31,920	38,667	—
South Carolina	43,517	60,567	46,151	37,911	28,936	33,495	33,108
South Dakota	37,023	47,706	39,520	33,851	27,944	(*)	31,676
Tennessee	46,137	61,394	44,420	36,674	29,033	30,376	30,779
Texas	48,210	65,006	48,336	40,528	32,131	32,725	42,569
Utah	47,627	60,681	46,240	39,290	32,992	30,069	39,988
Vermont	46,908	61,214	45,676	37,881	30,192	36,010	33,777
Virginia	50,471	65,032	49,255	40,569	31,971	35,628	32,883
Washington	47,637	64,052	48,492	41,790	37,829	37,286	40,252
West Virginia	42,345	52,205	42,301	35,106	28,597	29,258	(*)
Wisconsin	50,831	62,225	47,648	40,789	32,627	33,658	50,814
Wyoming	40,186	55,170	44,095	38,014	26,891	29,961	34,333

—Not applicable.

*Number of faculty reported in this category was too small to yield reliable results.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Salaries, Tenure, and Fringe Benefits of Full-Time Instructional Faculty Survey" (IPEDS-SA: 1997–98).

Table 6.—Average salaries of full-time instructional faculty, on 9- and 10-month contracts, in public Title IV eligible degree-granting institutions, by academic rank and state: Academic year 1997–98

State	All ranks	Professor	Associate professor	Assistant professor	Instructor	Lecturer	No academic rank
50 States and D.C.	$51,638	$66,937	$50,948	$42,147	$32,627	$34,608	$45,812
Alabama	43,321	59,335	45,496	38,813	29,819	28,767	37,996
Alaska	51,080	64,631	52,542	42,702	37,250	36,185	37,649
Arizona	54,622	72,905	53,072	44,254	28,949	36,650	50,339
Arkansas	41,319	57,980	45,869	38,673	29,594	21,344	33,493
California	61,086	73,236	56,708	46,874	43,181	46,308	56,156
Colorado	50,854	64,925	49,661	41,485	32,677	29,044	38,111
Connecticut	61,529	76,283	58,825	45,515	36,740	50,768	—
Delaware	59,493	83,429	59,235	47,378	36,450	39,967	44,156
District of Columbia	48,708	61,906	48,403	39,452	(*)	(*)	—
Florida	49,007	60,282	48,757	41,958	34,254	35,247	42,166
Georgia	50,240	68,373	51,810	42,176	32,027	35,826	35,828
Hawaii	53,820	68,418	53,536	46,021	36,737	—	—
Idaho	44,099	53,851	44,403	38,835	30,954	—	36,787
Illinois	52,751	69,261	51,265	43,023	26,554	28,952	51,349
Indiana	49,714	68,689	50,174	41,990	27,569	33,491	31,850
Iowa	52,612	72,210	53,174	44,362	34,517	—	37,747
Kansas	44,929	61,761	46,785	39,709	30,515	29,801	36,714
Kentucky	46,724	60,872	44,730	38,970	29,926	28,507	46,152
Louisiana	43,710	59,992	45,883	38,482	28,655	17,398	32,094
Maine	44,739	57,109	46,602	37,893	31,681	36,712	36,246
Maryland	51,990	65,536	50,755	42,271	34,135	31,925	36,842
Massachusetts	53,760	59,788	53,114	42,801	32,698	41,792	36,329
Michigan	57,810	72,205	55,279	46,038	36,574	33,231	55,866
Minnesota	50,790	66,972	50,658	41,582	30,669	—	44,529
Mississippi	41,785	57,692	47,448	39,240	29,730	23,083	38,308
Missouri	48,769	63,249	50,597	40,943	33,416	26,441	35,873
Montana	43,432	55,138	45,264	38,126	32,180	28,780	31,582
Nebraska	47,032	64,832	49,854	40,251	31,319	27,254	35,032
Nevada	53,691	64,361	56,946	45,607	38,754	36,966	47,458
New Hampshire	50,446	57,752	48,941	39,735	31,495	(*)	32,403
New Jersey	62,227	80,681	62,261	47,553	35,381	38,262	57,208
New Mexico	43,438	57,513	44,897	37,446	30,704	31,050	31,546
New York	55,838	69,086	53,541	43,510	34,890	40,878	(*)
North Carolina	50,569	71,194	52,323	44,186	39,093	34,218	34,540
North Dakota	39,041	50,841	40,835	36,835	30,220	26,967	28,509
Ohio	53,476	70,005	51,885	42,350	32,880	30,187	43,201
Oklahoma	44,258	57,470	46,651	40,274	32,390	24,879	35,103
Oregon	46,068	58,581	45,953	39,929	31,702	24,619	44,439
Pennsylvania	57,079	73,608	56,626	45,398	34,804	33,003	39,541
Rhode Island	53,656	61,958	49,161	39,428	26,704	—	—
South Carolina	44,552	63,379	48,506	39,877	29,448	33,866	33,154
South Dakota	37,525	48,515	40,074	34,740	27,881	—	31,732
Tennessee	45,912	59,687	44,452	36,751	29,180	32,646	—
Texas	47,310	63,849	47,915	40,711	32,634	32,506	42,622
Utah	45,497	58,276	44,682	37,910	32,720	30,102	38,165
Vermont	47,448	59,536	46,499	36,556	(*)	34,189	40,620
Virginia	51,537	66,406	50,110	41,577	32,514	36,336	(*)
Washington	47,531	65,090	49,183	42,924	38,614	37,677	40,583
West Virginia	43,302	53,099	42,941	35,665	28,289	29,258	(*)
Wisconsin	52,301	63,609	48,579	42,810	38,589	34,537	50,953
Wyoming	40,186	55,170	44,095	38,014	26,891	29,961	34,333

—Not applicable.

*Number of faculty reported in this category was too small to yield reliable results.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Salaries, Tenure, and Fringe Benefits of Full-Time Instructional Faculty Survey" (IPEDS-SA: 1997–98).

Table 7.—Average salaries of full-time instructional faculty, on 9- and 10-month contracts, in private, non-profit Title IV eligible degree-granting institutions, by academic rank and state: Academic year 1997–98

State	All ranks	Professor	Associate professor	Assistant professor	Instructor	Lecturer	No academic rank
50 States and D.C.	$54,169	$72,627	$50,601	$41,266	$32,121	$38,376	$39,002
Alabama	38,827	51,371	39,567	33,378	26,284	25,075	26,259
Alaska	38,960	45,045	40,831	35,106	34,712	—	—
Arizona	46,480	58,324	50,577	37,603	26,231	(*)	30,051
Arkansas	37,902	46,284	38,853	32,463	24,217	24,572	15,438
California	63,208	81,258	55,532	45,617	40,047	44,514	47,118
Colorado	54,239	68,978	52,721	42,267	31,999	36,154	31,025
Connecticut	64,667	85,709	54,474	46,369	37,598	42,943	(*)
Delaware	56,224	70,267	59,855	36,272	42,895	32,495	—
District of Columbia	61,414	81,855	55,403	45,480	36,978	32,442	(*)
Florida	48,975	65,954	46,417	38,845	32,299	32,243	41,270
Georgia	48,331	64,905	47,389	38,564	30,266	32,103	38,228
Hawaii	49,215	55,689	51,716	42,401	41,367	—	—
Idaho	44,649	49,240	40,771	35,783	(*)	29,790	45,250
Illinois	57,638	78,863	52,922	44,135	34,423	39,284	41,932
Indiana	50,813	65,413	48,345	39,836	31,817	30,275	33,800
Iowa	42,146	53,797	41,696	34,885	28,179	37,054	31,788
Kansas	32,650	38,154	33,913	30,152	29,965	—	25,945
Kentucky	38,698	48,240	38,893	33,305	25,617	24,010	20,584
Louisiana	52,441	68,903	50,090	40,647	30,506	36,020	(*)
Maine	48,722	67,828	48,312	37,843	32,144	(*)	39,781
Maryland	55,407	77,288	49,327	41,902	43,765	34,389	45,752
Massachusetts	65,812	87,342	57,187	48,165	36,105	47,827	36,952
Michigan	44,341	53,514	44,733	37,659	31,479	47,052	34,189
Minnesota	46,296	60,554	46,178	37,495	33,028	29,704	32,126
Mississippi	37,110	48,509	37,617	33,320	26,300	22,514	22,244
Missouri	47,956	65,230	46,723	38,653	30,893	33,519	31,256
Montana	34,423	42,615	36,640	31,494	27,168	15,241	29,201
Nebraska	41,807	54,801	42,432	34,894	30,949	—	43,499
Nevada	41,051	(*)	42,161	32,547	—	—	—
New Hampshire	55,365	73,238	49,661	41,232	30,160	43,420	24,230
New Jersey	63,562	85,538	56,124	44,690	33,701	40,385	41,548
New Mexico	35,906	44,454	38,218	32,373	26,069	(*)	33,012
New York	60,889	80,217	56,619	45,724	34,175	39,102	42,647
North Carolina	45,390	60,468	43,796	36,424	28,983	40,048	35,883
North Dakota	33,808	42,668	36,994	33,072	29,086	—	25,258
Ohio	48,428	61,805	46,462	38,310	31,749	27,807	28,850
Oklahoma	42,738	56,901	43,634	35,678	27,848	34,544	35,062
Oregon	48,442	61,550	46,150	37,380	33,296	31,995	39,361
Pennsylvania	55,805	74,964	52,652	43,065	33,160	35,540	22,340
Rhode Island	58,551	74,907	53,280	45,040	32,176	38,667	—
South Carolina	39,120	50,728	38,148	33,489	27,327	30,570	31,405
South Dakota	35,169	43,837	37,669	31,317	28,275	20,962	(*)
Tennessee	46,643	65,452	44,334	36,530	28,644	29,932	30,779
Texas	52,178	68,506	49,732	39,908	29,503	34,169	28,935
Utah	52,976	65,956	49,881	43,011	34,911	(*)	43,119
Vermont	46,437	62,804	44,760	38,918	30,253	46,269	31,892
Virginia	47,221	60,503	46,189	37,499	29,087	32,994	20,510
Washington	48,061	61,055	47,304	39,803	35,345	31,004	21,825
West Virginia	37,106	44,948	38,547	33,034	29,821	—	—
Wisconsin	44,906	56,164	45,489	37,720	30,328	29,011	39,391
Wyoming	—	—	—	—	—	—	—

—Not applicable.

*Number of faculty reported in this category was too small to yield reliable results.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Salaries, Tenure, and Fringe Benefits of Full-Time Instructional Faculty Survey" (IPEDS-SA: 1997–98).

Table 8.—Average salaries of full-time instructional faculty, on 9- and 10-month contracts, in 4-year Title IV eligible degree-granting institutions, by academic rank and state: Academic year 1997–98

State	All ranks	Professor	Associate professor	Assistant professor	Instructor	Lecturer	No academic rank
50 States and D.C.	$54,211	$70,441	$51,351	$42,105	$31,787	$35,431	$38,644
Alabama	44,137	57,650	44,630	37,475	29,136	28,230	(*)
Alaska	50,221	63,537	51,842	42,181	36,725	36,185	37,649
Arizona	56,042	72,098	52,924	43,755	28,458	36,534	33,572
Arkansas	43,111	55,261	44,462	37,892	29,076	21,931	—
California	64,501	76,560	56,114	46,186	37,474	45,908	48,366
Colorado	53,738	67,159	50,740	42,228	32,902	31,589	35,112
Connecticut	64,816	83,193	57,566	46,346	37,544	45,497	(*)
Delaware	61,854	82,313	59,320	46,829	37,060	35,401	—
District of Columbia	60,982	81,562	55,283	45,327	36,936	32,495	35,139
Florida	52,209	67,457	49,128	41,917	33,331	33,282	41,048
Georgia	51,265	68,428	51,438	42,110	31,649	34,137	33,808
Hawaii	57,612	71,201	55,224	46,908	35,662	—	—
Idaho	44,714	54,030	44,399	38,931	30,694	29,790	37,810
Illinois	55,509	73,641	52,065	43,621	30,164	30,860	40,613
Indiana	51,702	68,447	49,843	41,348	28,562	33,139	33,800
Iowa	51,455	66,818	49,175	39,708	31,724	37,054	32,935
Kansas	45,939	59,021	44,628	37,551	30,516	29,801	37,022
Kentucky	46,626	59,763	46,097	38,133	28,593	28,239	29,716
Louisiana	46,293	62,364	47,538	39,314	28,763	23,423	(*)
Maine	47,564	60,592	47,062	37,872	31,854	36,750	44,089
Maryland	54,914	73,422	52,335	43,820	38,487	32,349	46,016
Massachusetts	64,020	81,506	56,842	47,344	35,006	46,191	36,662
Michigan	55,701	70,161	53,337	43,837	34,489	33,801	35,825
Minnesota	51,654	65,029	48,710	39,582	31,990	29,704	26,528
Mississippi	43,390	56,248	45,674	38,322	29,371	22,998	25,073
Missouri	49,848	65,108	49,383	40,115	32,419	30,561	31,599
Montana	43,742	53,773	43,688	37,089	31,752	22,010	30,822
Nebraska	47,613	62,502	47,687	38,376	31,273	27,254	37,727
Nevada	57,333	75,320	56,625	45,461	26,712	36,966	(*)
New Hampshire	54,429	69,416	50,143	40,756	31,737	39,517	32,403
New Jersey	64,260	84,287	60,850	46,680	33,065	39,674	50,500
New Mexico	46,314	60,133	45,672	37,937	29,078	31,916	32,987
New York	59,651	76,801	55,855	45,138	34,558	39,802	39,971
North Carolina	50,983	67,680	49,674	41,106	31,593	34,833	38,890
North Dakota	39,899	50,276	41,724	36,603	30,887	27,067	—
Ohio	53,530	68,758	50,846	41,317	31,910	31,283	30,616
Oklahoma	45,843	59,729	46,299	38,969	30,700	26,228	34,991
Oregon	47,956	59,922	46,050	38,952	31,875	26,094	35,714
Pennsylvania	57,246	76,479	55,396	44,443	34,262	33,919	18,582
Rhode Island	57,993	71,196	52,671	44,072	32,176	38,667	—
South Carolina	47,102	60,918	46,316	37,999	28,982	33,495	29,262
South Dakota	37,744	48,121	39,520	33,851	27,944	20,962	27,854
Tennessee	48,287	62,296	46,320	37,562	29,139	30,376	30,779
Texas	50,894	67,820	49,241	41,044	31,606	32,754	37,072
Utah	49,384	61,749	46,978	40,061	33,241	29,683	42,178
Vermont	47,642	61,214	45,781	38,384	34,792	36,010	35,306
Virginia	52,700	67,637	51,086	41,502	31,779	35,628	33,058
Washington	51,447	64,052	48,492	41,827	33,151	37,286	38,424
West Virginia	42,758	52,741	42,637	35,388	28,676	30,685	—
Wisconsin	51,111	62,613	48,111	40,908	32,630	33,658	39,391
Wyoming	46,941	58,437	46,033	41,055	43,305	29,961	—

—Not applicable.

*Number of faculty reported in this category was too small to yield reliable results.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Salaries, Tenure, and Fringe Benefits of Full-Time Instructional Faculty Survey" (IPEDS-SA: 1997–98).

Table 9.—Average salaries of full-time instructional faculty, on 9- and 10-month contracts, in 4-year public Title IV eligible degree-granting institutions, by academic rank and state: Academic year 1997–98

State	All ranks	Professor	Associate professor	Assistant professor	Instructor	Lecturer	No academic rank
50 States and D.C.	$54,114	$69,195	$51,732	$42,582	$31,519	$34,516	$38,614
Alabama	45,377	59,335	45,496	38,813	29,819	28,767	(*)
Alaska	50,979	64,618	52,513	42,702	37,250	36,185	37,649
Arizona	56,693	72,905	53,072	44,254	28,949	36,650	34,052
Arkansas	44,311	58,112	46,008	39,108	29,722	21,344	—
California	64,982	75,046	56,407	46,475	35,212	46,308	49,282
Colorado	53,655	66,882	50,417	42,221	32,968	29,044	36,833
Connecticut	64,812	80,445	60,585	46,033	37,551	51,802	—
Delaware	62,507	83,429	59,235	47,378	36,450	39,967	—
District of Columbia	48,708	61,906	48,403	39,452	(*)	(*)	—
Florida	53,761	68,080	50,337	43,526	33,746	35,247	—
Georgia	52,247	69,863	52,891	43,315	31,919	35,826	—
Hawaii	58,800	72,951	55,722	47,890	35,269	—	—
Idaho	45,186	54,309	44,586	39,030	30,712	—	35,353
Illinois	53,317	69,261	51,265	43,023	26,554	28,952	29,260
Indiana	52,079	70,340	50,579	42,119	27,309	33,491	—
Iowa	59,685	76,372	54,857	45,656	35,709	—	—
Kansas	48,862	62,292	47,000	39,891	30,666	29,801	41,071
Kentucky	49,378	63,464	48,465	40,002	30,468	28,507	46,152
Louisiana	44,864	60,606	46,680	39,023	28,664	17,398	—
Maine	46,803	57,109	46,602	37,893	31,681	36,712	—
Maryland	54,641	71,735	53,295	44,491	35,869	31,966	(*)
Massachusetts	58,931	69,125	55,783	44,373	31,475	41,792	—
Michigan	58,474	73,481	55,400	45,856	35,947	33,231	36,235
Minnesota	55,260	66,972	50,658	41,582	30,669	—	—
Mississippi	44,522	57,692	47,448	39,240	29,730	23,083	—
Missouri	50,960	64,907	50,791	41,097	33,195	26,790	32,737
Montana	45,397	55,138	45,264	38,126	32,180	28,780	—
Nebraska	49,951	64,832	49,883	40,251	31,452	27,254	(*)
Nevada	57,537	75,496	56,946	45,607	26,712	36,966	(*)
New Hampshire	54,045	66,290	51,232	40,835	33,014	(*)	32,403
New Jersey	64,640	83,521	62,995	47,646	32,560	38,921	60,943
New Mexico	47,260	61,117	46,010	38,385	29,309	31,947	32,917
New York	57,666	71,603	54,453	43,969	34,594	40,325	—
North Carolina	53,669	71,194	52,323	44,186	39,093	34,218	39,369
North Dakota	40,545	50,958	42,507	37,241	31,187	27,067	—
Ohio	56,314	72,590	53,049	43,154	32,040	32,567	33,700
Oklahoma	46,754	60,608	46,890	39,864	31,615	24,879	—
Oregon	47,695	59,020	46,001	40,014	31,418	24,619	31,459
Pennsylvania	58,310	77,733	57,773	45,739	34,811	32,980	34,772
Rhode Island	57,006	66,085	51,544	42,170	—	—	—
South Carolina	49,795	63,939	48,800	40,060	29,523	33,866	(*)
South Dakota	38,542	49,038	40,074	34,740	27,881	—	25,832
Tennessee	49,133	60,737	47,404	38,209	29,312	32,646	—
Texas	50,381	67,537	49,046	41,406	32,293	32,537	38,318
Utah	47,528	59,648	45,542	38,700	32,858	29,718	34,707
Vermont	47,448	59,536	46,499	36,556	(*)	34,189	40,620
Virginia	54,927	70,239	52,921	43,233	32,510	36,336	—
Washington	52,971	65,090	49,183	43,046	31,620	37,677	43,237
West Virginia	43,865	53,773	43,375	36,065	28,353	30,685	—
Wisconsin	53,713	64,144	49,372	43,125	38,830	34,537	—
Wyoming	46,941	58,437	46,033	41,055	43,305	29,961	—

—Not applicable.

*Number of faculty reported in this category was too small to yield reliable results.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Salaries, Tenure, and Fringe Benefits of Full-Time Instructional Faculty Survey" (IPEDS-SA: 1997–98).

Table 10.—Average salaries of full-time instructional faculty, on 9- and 10-month contracts, in 2-year Title IV eligible degree-granting institutions, by academic rank and state: Academic year 1997–98

State	All ranks	Professor	Associate professor	Assistant professor	Instructor	Lecturer	No academic rank
50 States and D.C.	$45,652	$54,323	$45,811	$39,306	$34,238	$36,608	$45,801
Alabama	37,778	—	—	—	—	—	37,778
Alaska	61,909	65,188	(*)	—	—	—	—
Arizona	50,539	—	—	—	—	—	50,539
Arkansas	33,038	39,757	33,190	31,727	28,279	—	33,298
California	56,286	61,723	57,699	49,433	44,626	55,555	56,138
Colorado	37,875	41,626	37,487	31,031	30,201	—	38,195
Connecticut	49,574	61,490	50,114	43,410	36,535	(*)	26,672
Delaware	44,156	—	—	—	—	—	44,156
District of Columbia	—	—	—	—	—	—	—
Florida	42,467	47,947	43,264	37,561	34,579	—	42,000
Georgia	38,757	48,118	43,574	36,819	31,787	—	35,524
Hawaii	45,628	55,900	47,946	43,709	37,517	—	—
Idaho	42,972	44,596	39,887	36,093	32,111	—	43,795
Illinois	51,247	38,692	35,008	29,974	25,408	—	51,440
Indiana	35,757	49,839	41,347	36,315	30,762	—	31,831
Iowa	37,406	41,738	36,642	33,348	32,960	—	37,653
Kansas	36,176	39,654	32,691	29,491	27,352	—	36,269
Kentucky	36,621	45,959	35,849	32,416	29,269	—	—
Louisiana	34,621	46,297	39,481	33,394	28,606	—	32,094
Maine	35,632	—	—	—	—	—	35,632
Maryland	46,857	55,945	45,728	37,684	32,084	29,768	34,766
Massachusetts	41,778	44,921	37,746	35,552	33,387	—	36,969
Michigan	55,480	54,190	52,801	50,834	40,831	—	56,143
Minnesota	44,422	—	—	—	—	—	44,422
Mississippi	38,058	33,605	(*)	23,410	21,789	—	38,285
Missouri	41,349	54,093	48,410	38,886	33,920	21,786	35,827
Montana	31,175	—	—	—	—	—	31,175
Nebraska	35,029	—	(*)	—	(*)	—	35,065
Nevada	46,323	51,173	—	—	39,027	—	47,583
New Hampshire	35,381	38,036	32,199	28,737	26,935	—	24,230
New Jersey	56,329	71,820	60,466	47,330	36,985	34,190	28,627
New Mexico	33,094	37,556	36,939	32,571	31,557	29,928	31,437
New York	51,597	64,272	50,544	42,175	34,147	41,606	31,193
North Carolina	32,136	35,608	30,126	27,824	27,725	—	32,217
North Dakota	32,734	(*)	36,632	34,408	29,202	(*)	27,076
Ohio	43,580	55,265	46,056	39,618	33,018	28,332	43,444
Oklahoma	36,836	38,727	31,455	41,753	34,483	—	35,112
Oregon	44,265	48,677	45,212	38,408	32,926	—	44,486
Pennsylvania	48,467	56,389	48,088	41,664	34,239	33,229	34,567
Rhode Island	43,329	50,511	36,683	32,814	26,704	—	—
South Carolina	33,655	48,316	39,693	33,211	26,882	—	33,158
South Dakota	32,474	27,318	—	—	—	—	32,636
Tennessee	35,861	46,052	38,884	31,997	28,847	—	—
Texas	41,549	46,483	41,147	37,082	32,863	29,936	42,591
Utah	37,431	43,865	39,161	34,688	32,495	31,688	38,669
Vermont	20,206	—	30,669	24,636	19,367	—	11,420
Virginia	40,546	47,389	42,047	36,910	32,386	—	(*)
Washington	40,565	—	—	40,703	44,397	—	40,408
West Virginia	35,588	44,084	35,345	29,463	27,761	24,342	(*)
Wisconsin	50,263	50,318	41,677	37,168	(*)	—	50,953
Wyoming	33,458	38,834	36,909	31,877	25,008	—	34,333

—Not applicable.

*Number of faculty reported in this category was too small to yield reliable results.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Salaries, Tenure, and Fringe Benefits of Full-Time Instructional Faculty Survey" (IPEDS-SA: 1997–98).

Table 11.—Average salaries of full-time instructional faculty, on 9- and 10-month contracts, in 2-year public Title IV eligible degree-granting institutions, by academic rank and state: Academic year 1997–98

State	All ranks	Professor	Associate professor	Assistant professor	Instructor	Lecturer	No academic rank
50 States and D.C.	$45,919	$54,488	$46,078	$39,623	$34,713	$36,199	$45,993
Alabama	37,964	—	—	—	—	—	37,964
Alaska	61,909	65,188	(*)	—	—	—	—
Arizona	50,539	—	—	—	—	—	50,539
Arkansas	33,305	42,169	35,572	32,808	28,279	—	33,493
California	56,462	61,818	57,973	49,804	47,278	—	56,174
Colorado	37,875	41,626	37,487	31,031	30,201	—	38,195
Connecticut	50,780	61,582	50,135	43,871	36,486	(*)	—
Delaware	44,156	—	—	—	—	—	44,156
District of Columbia	—	—	—	—	—	—	—
Florida	42,521	47,947	43,264	37,561	34,579	—	42,166
Georgia	39,390	49,495	44,180	37,238	32,308	—	35,828
Hawaii	45,628	55,900	47,946	43,709	37,517	—	—
Idaho	37,556	44,596	39,887	36,093	32,111	—	37,168
Illinois	51,793	—	—	—	—	—	51,793
Indiana	35,913	49,839	42,194	38,005	31,568	—	31,850
Iowa	37,460	41,738	36,642	32,942	32,612	—	37,747
Kansas	36,453	39,654	32,691	29,491	27,352	—	36,562
Kentucky	36,621	45,959	35,849	32,416	29,269	—	—
Louisiana	34,621	46,297	39,481	33,394	28,606	—	32,094
Maine	36,246	—	—	—	—	—	36,246
Maryland	46,934	55,945	45,728	37,751	32,084	29,768	38,191
Massachusetts	42,039	44,926	37,693	35,967	33,437	—	36,329
Michigan	55,608	54,190	52,801	50,834	40,831	—	56,303
Minnesota	44,529	—	—	—	—	—	44,529
Mississippi	38,308	—	—	—	—	—	38,308
Missouri	41,499	54,348	49,132	39,413	34,046	21,786	35,931
Montana	31,582	—	—	—	—	—	31,582
Nebraska	35,029	—	(*)	—	(*)	—	35,065
Nevada	46,323	51,173	—	—	39,027	—	47,583
New Hampshire	35,625	38,036	32,199	28,737	26,935	—	—
New Jersey	56,444	71,820	60,466	47,330	36,985	34,190	34,798
New Mexico	33,094	37,556	36,939	32,571	31,557	29,928	31,437
NewYork	52,540	64,628	51,223	42,741	34,981	42,443	27,000
North Carolina	32,128	—	—	—	—	—	32,128
North Dakota	33,459	(*)	36,632	34,408	29,202	(*)	28,509
Ohio	43,966	55,546	46,173	39,862	33,607	28,332	43,872
Oklahoma	37,045	38,801	34,711	42,075	34,960	—	35,112
Oregon	44,265	48,677	45,212	38,408	32,926	—	44,486
Pennsylvania	50,184	57,048	49,358	42,713	34,750	33,229	40,872
Rhode Island	43,329	50,511	36,683	32,814	26,704	—	—
South Carolina	33,653	48,316	39,693	33,211	26,882	—	33,148
South Dakota	32,530	27,318	—	—	—	—	32,695
Tennessee	36,041	46,839	38,936	32,148	29,041	—	—
Texas	41,623	46,497	41,219	37,220	32,990	29,936	42,631
Utah	37,374	43,865	39,161	34,688	32,495	31,688	38,582
Vermont	—	—	—	—	—	—	—
Virginia	40,629	47,389	42,059	37,012	32,521	—	26,950
Washington	40,565	—	—	40,703	44,397	—	40,408
West Virginia	35,588	44,084	35,345	29,463	27,761	24,342	35,697
Wisconsin	50,263	50,318	41,677	37,168	(*)	—	50,953
Wyoming	33,458	38,834	36,909	31,877	25,008	—	34,333

—Not applicable.

*Number of faculty reported in this category was too small to yield reliable results.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Salaries, Tenure, and Fringe Benefits of Full-Time Instructional Faculty Survey" (IPEDS-SA: 1997–98).

Table 12.—Average salaries of male full-time instructional faculty, on 9- and 10-month contracts, in Title IV eligible degree-granting institutions, by academic rank and state: Academic year 1997–98

State	All ranks	Professor	Associate professor	Assistant professor	Instructor	Lecturer	No academic rank
50 States and D.C.	$56,115	$70,468	$52,041	$43,017	$33,070	$37,481	$46,822
Alabama	45,803	59,171	46,199	38,650	29,291	29,567	38,562
Alaska	52,728	63,797	52,546	44,324	39,203	36,829	39,352
Arizona	57,989	73,182	54,354	45,387	29,507	37,695	50,954
Arkansas	44,216	56,156	44,994	38,622	29,099	22,978	34,008
California	64,683	76,806	57,452	47,931	41,278	48,139	57,167
Colorado	55,116	67,098	51,323	42,801	34,351	34,369	38,822
Connecticut	67,408	83,245	58,123	47,054	38,450	48,112	34,469
Delaware	64,796	84,698	60,384	49,078	40,226	37,260	43,881
District of Columbia	65,623	83,406	55,927	46,723	38,489	32,291	35,243
Florida	52,133	64,321	49,112	41,751	34,493	34,857	43,217
Georgia	53,792	69,322	52,055	42,509	31,249	36,565	37,550
Hawaii	56,735	69,419	54,093	46,626	37,057	—	—
Idaho	46,065	54,215	44,774	40,123	31,932	32,556	44,296
Illinois	58,652	75,335	53,409	45,275	30,207	31,662	52,856
Indiana	54,576	69,303	50,986	42,801	28,982	35,777	32,362
Iowa	52,434	66,842	50,166	40,009	32,183	42,550	38,415
Kansas	46,097	59,383	45,791	38,514	30,542	30,431	37,295
Kentucky	48,263	59,645	44,885	38,400	28,918	28,586	37,960
Louisiana	49,369	63,343	47,843	39,739	28,512	27,949	30,878
Maine	48,343	61,903	47,704	38,303	31,149	44,122	37,003
Maryland	56,719	70,385	51,626	43,576	35,450	34,061	47,751
Massachusetts	66,946	79,742	57,777	48,990	36,619	50,508	38,119
Michigan	59,149	70,755	54,836	45,294	36,108	35,165	56,892
Minnesota	52,292	66,603	49,863	40,607	32,149	31,186	44,614
Mississippi	44,466	57,495	46,740	39,637	29,428	20,848	38,695
Missouri	52,073	65,152	50,509	41,610	32,668	31,679	36,740
Montana	44,196	54,525	44,498	37,299	32,504	19,351	30,767
Nebraska	49,385	63,640	48,933	39,009	30,515	28,795	36,506
Nevada	56,574	67,132	57,709	45,974	39,121	37,583	48,530
New Hampshire	56,627	67,259	50,570	42,327	29,874	(*)	27,105
New Jersey	67,356	84,619	62,461	48,492	35,208	40,729	48,652
New Mexico	46,018	59,237	45,910	38,017	30,498	31,889	32,650
New York	61,959	75,848	56,521	45,736	34,362	41,306	38,636
North Carolina	53,527	69,038	50,936	42,182	32,184	36,945	36,588
North Dakota	40,500	50,673	41,395	37,239	31,138	29,648	28,300
Ohio	55,781	69,158	51,833	41,821	32,485	30,197	44,427
Oklahoma	46,779	59,644	46,789	39,868	32,242	30,328	35,837
Oregon	49,264	60,614	46,868	40,131	33,026	26,572	46,010
Pennsylvania	60,639	76,237	56,189	45,599	36,033	35,518	30,247
Rhode Island	60,621	70,999	54,222	44,253	32,236	36,110	—
South Carolina	47,258	61,983	47,126	38,550	29,840	36,343	33,764
South Dakota	39,180	48,192	40,296	35,415	28,079	(*)	32,619
Tennessee	49,928	62,602	46,082	37,268	29,034	31,609	30,624
Texas	52,098	67,180	49,311	41,560	32,730	34,550	43,789
Utah	50,578	61,938	47,686	40,914	34,078	31,691	40,796
Vermont	50,561	62,393	46,698	38,611	31,548	38,147	35,391
Virginia	54,240	67,046	50,444	41,689	32,601	38,784	34,246
Washington	50,453	64,970	49,233	42,676	39,093	38,064	40,923
West Virginia	45,223	53,385	43,770	36,026	28,102	31,348	—
Wisconsin	53,245	63,499	48,690	41,638	30,744	33,638	51,467
Wyoming	43,297	56,382	44,585	38,947	27,209	30,884	36,103

—Not applicable.

*Number of faculty reported in this category was too small to yield reliable results.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Salaries, Tenure, and Fringe Benefits of Full-Time Instructional Faculty Survey" (IPEDS-SA: 1997–98).

Table 13.—Average salaries of female full-time instructional faculty, on 9- and 10-month contracts, in Title IV eligible degree-granting institutions, by academic rank and state: Academic year 1997–98

State	All ranks	Professor	Associate professor	Assistant professor	Instructor	Lecturer	No academic rank
50 States and D.C.	$45,775	$61,965	$48,597	$40,504	$32,011	$33,918	$43,491
Alabama	37,556	50,513	40,818	36,085	29,038	27,116	37,077
Alaska	46,412	62,853	50,821	39,632	34,712	35,448	35,379
Arizona	48,149	65,732	50,326	42,127	27,759	35,457	49,608
Arkansas	35,542	48,964	42,696	36,137	28,967	21,476	32,716
California	55,731	68,923	54,646	44,764	41,335	43,839	54,389
Colorado	43,718	57,096	47,785	40,277	30,944	28,500	37,032
Connecticut	54,172	72,120	54,676	44,748	35,682	41,621	26,513
Delaware	50,717	73,735	57,141	44,024	36,186	34,218	44,316
District of Columbia	52,994	74,858	54,266	44,028	35,800	32,680	34,891
Florida	43,502	52,602	46,210	40,309	33,541	31,479	40,651
Georgia	43,600	59,729	48,266	40,126	31,912	32,837	33,256
Hawaii	47,991	60,879	52,122	44,477	36,674	—	—
Idaho	39,680	50,407	43,011	36,652	29,958	21,495	38,479
Illinois	47,038	65,195	49,275	41,506	29,924	30,128	47,698
Indiana	41,714	58,436	46,420	39,350	28,499	31,733	31,461
Iowa	41,969	56,391	45,514	38,654	31,918	33,390	36,545
Kansas	38,039	53,977	41,797	36,079	30,309	29,193	35,139
Kentucky	39,955	52,722	41,775	36,715	28,765	28,004	18,723
Louisiana	38,929	54,975	45,015	37,892	28,867	22,453	33,003
Maine	41,405	54,362	45,975	37,470	32,621	31,981	34,780
Maryland	46,474	60,826	48,715	40,884	36,598	30,924	40,711
Massachusetts	51,583	62,643	52,821	44,094	33,373	41,933	35,555
Michigan	48,863	62,678	50,283	42,546	34,256	32,952	52,240
Minnesota	44,716	58,907	46,906	38,500	31,890	29,111	43,930
Mississippi	37,728	50,124	43,044	36,392	28,903	24,676	38,006
Missouri	42,100	58,493	46,824	38,288	32,721	29,332	33,488
Montana	37,800	49,403	41,821	36,848	31,099	24,670	31,706
Nebraska	39,106	55,240	44,836	37,700	31,568	26,335	33,204
Nevada	47,933	56,490	53,590	44,852	38,252	36,459	46,184
New Hampshire	44,710	52,823	46,248	37,987	31,444	41,420	30,217
New Jersey	54,479	74,776	57,954	44,979	34,866	38,175	37,970
New Mexico	38,069	49,050	42,177	36,205	30,641	30,110	30,845
New York	51,444	69,558	52,726	43,344	34,358	39,198	40,109
North Carolina	41,671	60,680	46,903	39,727	30,885	33,403	33,248
North Dakota	34,566	47,452	38,066	35,048	28,769	24,909	26,176
Ohio	44,859	59,591	47,402	40,167	32,299	29,724	39,573
Oklahoma	39,010	48,531	44,102	38,779	30,747	22,662	34,184
Oregon	42,547	55,323	44,637	37,506	31,237	25,638	42,788
Pennsylvania	48,683	66,420	52,156	42,750	32,960	32,749	25,980
Rhode Island	48,632	59,798	48,054	41,009	31,355	40,316	—
South Carolina	37,348	53,154	43,824	37,164	28,371	31,063	32,522
South Dakota	33,065	44,714	37,833	31,894	27,854	(*)	29,936
Tennessee	39,411	55,067	41,825	36,023	29,032	29,422	30,921
Texas	41,706	55,380	46,292	39,359	31,687	31,330	41,232
Utah	40,395	52,510	43,136	36,644	31,857	27,856	38,625
Vermont	40,612	55,559	43,856	37,227	29,339	34,896	31,723
Virginia	43,719	56,670	47,002	39,445	31,536	33,683	28,285
Washington	42,820	59,288	47,032	40,793	36,914	36,689	39,423
West Virginia	37,514	47,694	39,759	34,149	28,857	27,864	(*)
Wisconsin	46,709	56,355	45,705	39,888	33,470	33,675	50,054
Wyoming	34,754	47,226	42,800	36,600	26,591	29,479	32,222

—Not applicable.

*Number of faculty reported in this category was too small to yield reliable results.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System, "Salaries, Tenure, and Fringe Benefits of Full-Time Instructional Faculty Survey" (IPEDS-SA: 1997–98).

Literacy in the Labor Force: Results from the National Adult Literacy Survey
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Literacy in the Labor Force: Results From the National Adult Literacy Survey

Andrew Sum

This article was originally published as the Executive Summary of the report of the same name. The sample survey data are from the NCES National Adult Literacy Survey (NALS).

Introduction

This is one in a series of reports that examines the results of the National Adult Literacy Survey (NALS), a cooperative effort of the National Center for Education Statistics (NCES) and the Division of Adult Education and Literacy of the U.S. Department of Education. This report focuses primarily on the literacy skills of the nation's civilian labor force, including the employed and unemployed.

Many past studies of adult literacy have tried to count the number of "illiterates" in this nation, thereby treating literacy as a condition that individuals either do or do not have. We believe that such efforts are inherently arbitrary and misleading. They are also damaging in that they fail to acknowledge both the complexity of the literacy problem and the range of solutions needed to address it.

NALS is based on a different concept of literacy and, therefore, takes a different approach to measuring it. The aim of this survey is to document the English literacy of adults in the United States based on their performance across a wide array of tasks that reflect the types of materials and demands they encounter in their daily lives.

To gather the information on adults' literacy skills, trained staff interviewed nearly 13,600 individuals age 16 and older during the first 8 months of 1992. These participants had been randomly selected to represent the adult population in the country as a whole. In addition, about another 1,000 adults were surveyed in each of 12 states that chose to participate in a special study designed to provide state-level results that are comparable to the national data. Finally, some 1,100 inmates from 80 federal and state prisons were interviewed to gather information on the proficiencies of the prison population. Prisoners are not a part of the nation's labor force, however, and their results were excluded from this report.[1]

Each survey participant was asked to spend approximately an hour responding to a series of diverse literacy tasks as well as questions about his or her demographic characteristics, educational background, labor force status, job characteristics, reading practices, and other areas related to literacy. Based on their responses to the survey tasks, adults received proficiency scores along three scales that reflect varying degrees of skill in prose, document, and quantitative literacy.[2] The scales are powerful tools that make it possible to explore the proportions of adults in different subpopulations of interest who demonstrated various levels of performance.

This report analyzes the literacy proficiencies of the nation's noninstitutionalized adult population. Data for the nation's civilian labor force are analyzed with respect to certain subpopulations, such as the employed and unemployed, as well

[1] For information about the literacy skills of the prison population, see Haigler et al. (1994).

[2] *Prose literacy* is the knowledge and skills needed to understand and use information from texts such as editorials, news stories, and fiction; *document literacy* is the knowledge and skills required to locate and use information contained in materials such as job applications, payroll forms, maps, and tables; *quantitative literacy* is the knowledge and skills required to apply arithmetic operations, either alone or sequentially, using numbers embedded in printed material.

as demographic and socioeconomic subgroups of employed civilians. The report also compares the literacy proficiencies of workers in major occupations and industries and analyzes the relationship between literacy proficiencies and weekly wages and annual earnings. Some of the major findings are highlighted here.

Highlights

Literacy proficiencies of those in and outside of the labor force

- Mean literacy proficiencies on all three scales—prose, document, and quantitative—were higher for adults participating in the labor force than for those outside of the labor force.
- Thirty-nine to 43 percent of the labor force scored at the two lowest levels of literacy proficiency, while only one out of four labor force participants scored at the two highest levels of proficiency, and only 3 to 5 percent scored at Level 5, the highest proficiency level.
- Younger adults (ages 16 to 65) who were not in the labor force had higher literacy proficiencies than older adults (over the age of 65), on average. One-third of those ages 16 to 65 who were neither working nor looking for work had proficiencies equal to or greater than the average for all labor force participants.

Literacy proficiencies of the employed and unemployed

- On the document and quantitative scales, full-time employees outperformed part-time employees (table A). Both groups had much higher average literacy proficiencies than the unemployed. In general, unemployment rates among labor force participants who scored in Level 1 were four to seven times higher than those of participants in Level 5.

Literacy proficiencies by demographic characteristics

- The mean scores of full-time employed men and women were similar on each of the three literacy scales, with women faring slightly better than men on the prose scale (by 7 points) and men performing slightly better than women on the quantitative scale (by 4 points).
- The oldest age groups of full-time employed civilians (ages 55 to 64 and age 65 and older) had the lowest proficiency scores, on average, while those ages 35 to 44 had the highest.
- On each literacy scale, mean proficiencies were higher for white full-time employees, followed by Asian, black, and Hispanic full-time employees.
- Foreign-born full-time workers who had lived in the United States for 10 years or less had significantly lower average literacy proficiency scores than native-born full-time workers.

Table A.—Distribution of adults across the literacy levels, by labor force status: 1992

Literacy scale/ labor force status	Percent in level . . .				
	1	2	3	4	5
Prose					
Employed full time	13	24	36	23	5
Employed part time	14	26	37	20	4
Employed, not at work	15	24	37	21	4
Unemployed	24	35	29	11	1
Out of labor force	35	30	25	9	1
Document					
Employed full time	14	26	35	21	4
Employed part time	17	29	35	17	3
Employed, not at work	16	30	34	18	3
Unemployed	26	34	29	10	1
Out of labor force	39	31	22	7	1
Quantitative					
Employed full time	13	23	35	23	6
Employed part time	15	27	36	18	4
Employed, not at work	17	24	36	19	4
Unemployed	28	32	28	10	2
Out of labor force	37	27	24	10	2

SOURCE: U.S. Department of Education, National Center for Education Statistics, National Adult Literacy Survey (NALS), 1992.
(Originally published as table 1.7 on p. 35 of the complete report from which this article is excerpted.)

- The mean literacy scores of the full-time employed were positively related to educational attainment. The mean scores of college graduates were higher than those of high school graduates, which were higher than the mean scores of high school dropouts.

Literacy proficiencies by industry and occupation

- The highest mean literacy proficiencies were posted by workers in the finance, insurance, and real estate industries and the public administration sector. Workers in goods-producing industries (agriculture, construction, manufacturing, mining) had the lowest proficiencies, on average.
- Mean literacy proficiencies were highest for professional workers, followed by managers, administrators, and technical workers. Mean scores were lowest for semiskilled and unskilled blue-collar workers and for farm, forestry, and fishing workers.

Literacy proficiencies and earnings

- The literacy proficiencies of the employed were positively and strongly associated with their weekly and annual earnings. On the prose scale, mean weekly earnings ranged from $355 for full-time workers in Level 1 to $531 for those in Level 3 to a high of $910 for those in Level 5.
- The weekly earnings impact of higher literacy scores was smaller for workers who had completed some high school (9th to 12th grade, no diploma) and largest for those with a 2- or 4-year degree.
- The direct earnings effect of higher literacy proficiencies was larger for older workers than for younger workers. For example, comparing the annual earnings of workers in Level 3 with those in Level 1, the relative earnings ratio rises from 1.10 for 16- to 24-year-olds to 1.78 for 45- to 54-year-olds.

Literacy proficiencies of the poor or near poor and of public assistance recipients

- The literacy proficiencies of the poor or near poor (those living in households with a combined money income below 125 percent of the poverty line) and of Aid to Families with Dependent Children (AFDC) recipients were well below average on each of the scales. However, poor or near poor adults who were in the labor force had higher average proficiencies than those not in the labor force.

Participation in basic skills programs

- Less than 5 percent of those in the labor force had ever participated in any basic skills training outside of their high school. However, labor force participants with lower literacy proficiencies were more likely than those with higher proficiencies to have received basic skills training in the past 5 years. Even so, only 6 percent of labor force participants in Level 1 had received basic skills training during the past 5 years.
- Among those who said they had received some basic skills training since leaving school, only 4 out of 10 indicated that the training was provided by an employer or labor union.

Reflections on the Results

These results do not answer the question: "Are the literacy skills of our nation's workers adequate?" They do, however, provide some critical information about the literacy levels of those in and those not in the labor force, as well as the employed and the unemployed. Overall, civilians in the labor force displayed higher literacy skills than those out of the labor force, and employed workers outperformed the unemployed.

Still, about 40 percent of those in the labor force posted literacy scores in the lowest two levels. Moreover, less than 5 percent of labor force participants had received any recent training in these basic skills. Together, these findings paint a bleak outlook for the future of the U.S. labor market. On the positive side, however, the mean literacy scores of the full-time employed rose from the youngest age group to the 35–44 age group, then declined as age increased. These results indicate that newer entrants into the full-time labor force will have stronger average literacy proficiencies than those who will be retiring over the next decade, thereby raising the average proficiency of the labor force.

In addition, the rising annual earnings differentials between college and high school graduates appear to reflect, in part, a rising economic payoff to literacy proficiencies. Those who earn a college degree possess considerably stronger literacy skills and are more likely to be rewarded for their skills with higher earnings and faster wage growth.

Analyses of literacy proficiencies by occupation and major industry revealed large variability across sectors, partially due to the educational requirements of certain occupations

and industrial groups. While workers in the finance, insurance, and real estate industries and the public administration sector posted relatively high proficiencies, many frontline, blue-collar workers within the goods-producing industries displayed quite limited skills. Given that 60 percent performed in Level 1 or 2 on the prose and document scales, further investments in the literacy skills of our frontline workers may help to improve our productivity and future economic competitiveness.

Literacy skills are strongly related to weekly and annual earnings overall and for most demographic and socioeconomic subgroups of the employed, although the relationship is considerably weaker for younger workers (under the age of 25) and for high school dropouts. The earnings effects of higher prose and quantitative scores are significantly associated with the intensity with which workers use their reading, writing, and mathematics skills on the job. Employees who apply such skills daily at work had sharply higher economic returns than those who do not. Raising the productivity and earnings potential of the future workforce will require simultaneous increases in both the demand and supply of literacy proficiencies.

Literacy deficits also seem to be an important barrier to the employability of the poor or near poor who are not active in the labor force. Integrating education programs with job placement, job search training, and job training programs may provide the means for encouraging more disadvantaged citizens to enter the workforce as well as raise the long-term earning potential of future labor force participants.

Finally, there is a need for expanded literacy training of the nation's workers through their workplace. The NALS data indicate that nearly all subgroups of employees, including frontline workers, receive positive economic payoffs from higher literacy proficiencies. Future efforts geared toward improving the quantity and quality of on-the-job literacy training are likely to be important in maintaining and improving the country's labor productivity, real wages, and economic competitiveness.

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Data source: The NCES 1992 National Adult Literacy Survey (NALS).

For technical information, see the complete report:

Sum, A. (1999). *Literacy in the Labor Force: Results From the National Adult Literacy Survey* (NCES 1999–470).

For additional details on survey methodology, see

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To obtain the complete report (NCES 1999–470), call the toll-free ED Pubs number (877–433–7827), visit the NCES Web Site *(http://nces.ed.gov)*, or contact GPO (202–512–1800).

Projections of Education Statistics to 2009
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Projections

Projections of Education Statistics to 2009

Debra E. Gerald and William J. Hussar

This article was excerpted from the Foreword, Introduction, and Highlights of the Compendium report of the same name. The sample survey and universe data are from many sources, both government and private, which are listed at the end of this article.

Introduction

Projections of Education Statistics to 2009 is the 28th report in a series begun in 1964. This report provides revisions of projections shown in *Projections of Education Statistics to 2008* and includes statistics on elementary and secondary schools and institutions of higher education at the national level. For the nation, the report contains data on enrollment, teachers, graduates, and expenditures for the past 14 years and projections to the year 2009.

In addition, the report includes projections for the 50 states and the District of Columbia. Specifically, it contains state-level data on projections of public elementary and secondary school enrollment and public high school graduates to the year 2009. Similar methodologies were used to obtain a uniform set of projections for the 50 states and the District of Columbia. These projections were further adjusted to agree with the national projections of public elementary and secondary school enrollment and public high school graduates appearing in this report. The projections were produced to provide researchers, policy analysts, and others with state-level projections developed with a consistent methodology. They are not intended to supplant detailed projections prepared in individual states.

The projections presented in this report reflect revisions influenced by the 1990 census. The revised population projections developed by the U.S. Bureau of the Census also reflect the incorporation of the 1997 estimates and latest assumptions for the fertility rate, net immigration, and mortality rate.

As detailed in the full report's technical appendixes and outlined in table A, assumptions regarding the population and the economy are the key factors underlying the projections of education statistics. Because projections of time series depend on the validity of many assumptions, these projections are uncertain and usually differ from the final reported data. Therefore, this report includes three alternative projections for most of the statistical series. These alternative projections are based on different assumptions about growth paths. Although the first alternative set of projections (middle alternative) is deemed to represent the most likely projections, the low and high alternatives provide a reasonable range of outcomes. The alternatives are not statistical confidence limits, but instead represent judgments made by the authors as to reasonable upper and lower bounds. Alternative projections are presented for higher education enrollment, classroom teachers, and expenditures of public elementary and secondary schools and institutions of higher education.

National Highlights

Overview of selected statistics

Figure A shows the amount of change in selected education statistics for the nation, both historical and projected. The remainder of the highlights consist of projected statistics.

Enrollments and graduates

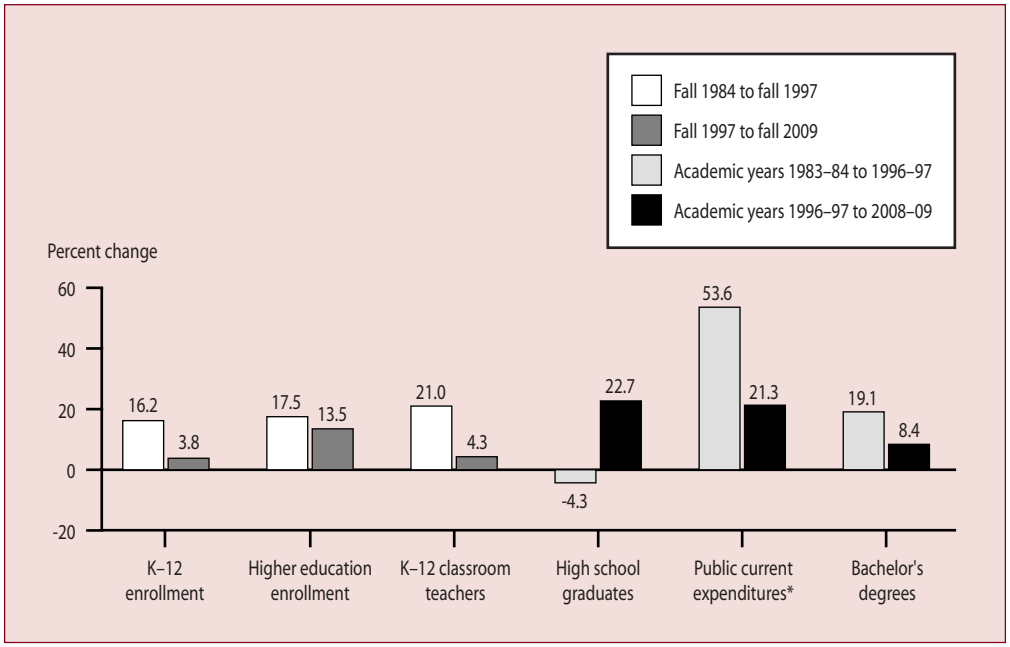
Over the projection period, growth in the school-age and traditional college-age populations is expected to cause increases in enrollments. Specifically, the 5- to 17-year-old population is projected to increase from 50.4 million in

Table A.—Summary of forecast assumptions to 2009

Variable	Middle alternative	Low alternative	High alternative
Demographic assumptions			
Population	Projections are consistent with the Census Bureau middle series estimates, which assume a fertility rate of 2.10 births per woman by the year 2009, a net immigration of 820,000 per year, and a further reduction in the mortality rate.	Same as middle alternative	Same as middle alternative
18- to 24-year-old population	Average annual growth rate of 1.5%	Same as middle alternative	Same as middle alternative
25- to 29-year-old population	Average annual growth rate of 0.3%	Same as middle alternative	Same as middle alternative
30- to 34-year-old population	Average annual decline of 1.1%	Same as middle alternative	Same as middle alternative
35- to 44-year-old population	Average annual decline of 1.0%	Same as middle alternative	Same as middle alternative
Public elementary enrollment	Average annual growth rate of 0.02%	Same as middle alternative	Same as middle alternative
Public secondary enrollment	Average annual growth rate of 0.9%	Same as middle alternative	Same as middle alternative
Undergraduate enrollment	Average annual growth rate of 1.2%	Average annual growth rate of 1.0%	Average annual growth rate of 1.4%
Graduate enrollment	Average annual growth rate of 0.2%	Average annual growth rate of 0.1%	Average annual growth rate of 0.4%
First-professional enrollment	Average annual growth rate of 0.1%	Average annual growth rate of 0.0%	Average annual growth rate of 0.4%
Full-time-equivalent enrollment	Average annual growth rate of 1.3%	Average annual growth rate of 1.1%	Average annual growth rate of 1.5%
Economic assumptions			
Disposable income per capita in constant dollars	Annual percent changes range between 0.8% and 3.4% with an annual compound growth rate of 1.4%.	Annual percent changes range between 0.0% and 2.8% with an annual compound growth rate of 0.9%.	Annual percent changes range between 1.4% and 4.1% with an annual compound growth rate of 1.9%.
Education revenue receipts from state sources per capita in constant dollars	Annual percent changes range between 0.0% and 1.6% with an annual compound growth rate of 0.6%.	Annual percent changes range between -0.6% and 1.0% with an annual compound growth rate of 0.1%.	Annual percent changes range between -0.3% and 3.2% with an annual compound growth rate of 1.1%.
Inflation rate	Inflation rate ranges between 2.1% and 3.5%.	Inflation rate ranges between 3.2% and 5.0%.	Inflation rate ranges between 1.3% and 2.4%.
Personal taxes and nontax receipts to state and local governments per capita in constant dollars	Annual percent changes range between -2.3% and 2.3% with an annual compound growth rate of 0.6%.	Annual percent changes range between -3.0% and 0.7% with an annual compound growth rate of -0.2%.	Annual percent changes range between -1.5% and 4.4% with an annual compound growth rate of 1.4%.
Sum of personal taxes and nontax receipts and indirect business taxes and tax accruals (excluding property taxes) to state and local governments per capita in constant dollars	Annual percent changes range between -1.0% and 1.9% with an annual compound growth rate of 0.8%.	Annual percent changes range between -1.6% and 0.8% with an annual compound growth rate of 0.2%.	Annual percent changes range between -0.3% and 3.4% with an annual compound growth rate of 1.4%.
Unemployment rate (men)			
Ages 18 to 19	Remains between 14.4% and 17.7%.	Remains between 14.4% and 20.2%.	Remains between 13.7% and 17.4%.
Ages 20 to 24	Remains between 8.6% and 10.1%.	Remains between 8.6% and 12.1%.	Remains between 7.5% and 9.8%.
Age 25 and over	Remains between 3.3% and 4.5%.	Remains between 3.3% and 5.6%.	Remains between 3.0% and 4.3%.
Unemployment rate (women)			
Ages 18 to 19	Remains between 12.0% and 13.8%.	Remains between 12.0% and 15.4%.	Remains between 11.5% and 13.5%.
Ages 20 to 24	Remains between 7.8% and 9.1%.	Remains between 7.8% and 10.3%.	Remains between 7.5% and 8.9%.
Age 25 and over	Remains between 3.7% and 4.3%.	Remains between 3.7% and 5.1%.	Remains between 3.4% and 4.2%.

SOURCE: Originally published as chart 1 on p. xi of the complete report from which this article is excerpted.

Figure A.—Percent change in selected education statistics: 1984 to 1997 and 1997 to 2009



*In constant 1996–97 dollars.

SOURCE: Based on figure 1 on p. viii of the complete report from which this article is excerpted.

1997 to 52.6 million in 2009, an increase of 4 percent. The 18- to 24-year-old population is expected to increase from 25.1 million in 1997 to 29.9 million in 2009, an increase of 19 percent.

Elementary and secondary enrollment. Total public and private elementary and secondary enrollment is projected to increase from 52.2 million in 1997 to 54.5 million in 2006. Then total enrollment is projected to remain steady through the year 2009, resulting in an increase of 4 percent from 1997.

Higher education enrollment. Higher education enrollment is projected to increase from an estimated 14.4 million in 1997 to 16.3 million by the year 2009, an increase of 14 percent. A 12 percent increase is projected under the low alternative, and a 16 percent increase is projected under the high alternative.

Number of high school graduates. High school graduates from public and private high schools are projected to increase from 2.6 million in 1996–97 to 3.2 million by 2008–09, an increase of 23 percent. This significant increase reflects the projected rise in the 18-year-old population.

Number of bachelor's degrees. The number of bachelor's degrees is expected to increase from 1,160,000 in 1996–97 to 1,257,000 by 2008–09, an increase of 8 percent.

Classroom teachers

The number of classroom teachers is projected to increase over the projection period. Under the middle alternative, the number of classroom teachers is expected to increase from 3.04 million in 1997 to 3.17 million by the year 2009, an increase of 4 percent. A 2 percent increase is projected under the low alternative, and a 7 percent increase is projected under the high alternative.

Expenditures and teacher salaries

Between 1995–96 and 2008–09, current expenditures for public elementary and secondary schools are projected to increase in constant dollars, as are current funds expenditures for public and private institutions of higher education.

Current expenditures for public elementary and secondary schools. Under the middle alternative, a 25 percent increase in current expenditures for public elementary and secondary schools is projected for the period from 1995–96 to 2008–09. Under the low alternative, current expenditures are projected to increase by 17 percent; under the high alternative, current expenditures are projected to increase by 32 percent.

Current expenditures per pupil in public elementary and secondary schools. Under the middle alternative, current expenditures per pupil in average daily attendance are

forecast to increase 16 percent in constant dollars from 1995–96 to 2008–09. Under the low alternative, current expenditures per pupil are projected to increase 9 percent; under the high alternative, current expenditures per pupil are projected to increase 23 percent.

Teacher salaries in public elementary and secondary schools. Under the middle alternative, teacher salaries are projected to increase 1 percent in constant dollars between 1996–97 and 2008–09. A 2 percent decline is projected under the low alternative, and a 3 percent increase is projected under the high alternative.

Current funds expenditures for institutions of higher education. Total current funds expenditures for institutions of higher education are projected to increase 36 percent in constant dollars under the middle alternative from 1995–96 to 2008–09. Total current funds expenditures are projected to increase at almost the same rate in public institutions and private institutions. A 36 percent increase is projected for public institutions, and a 35 percent increase is projected for private institutions.

State-Level Highlights

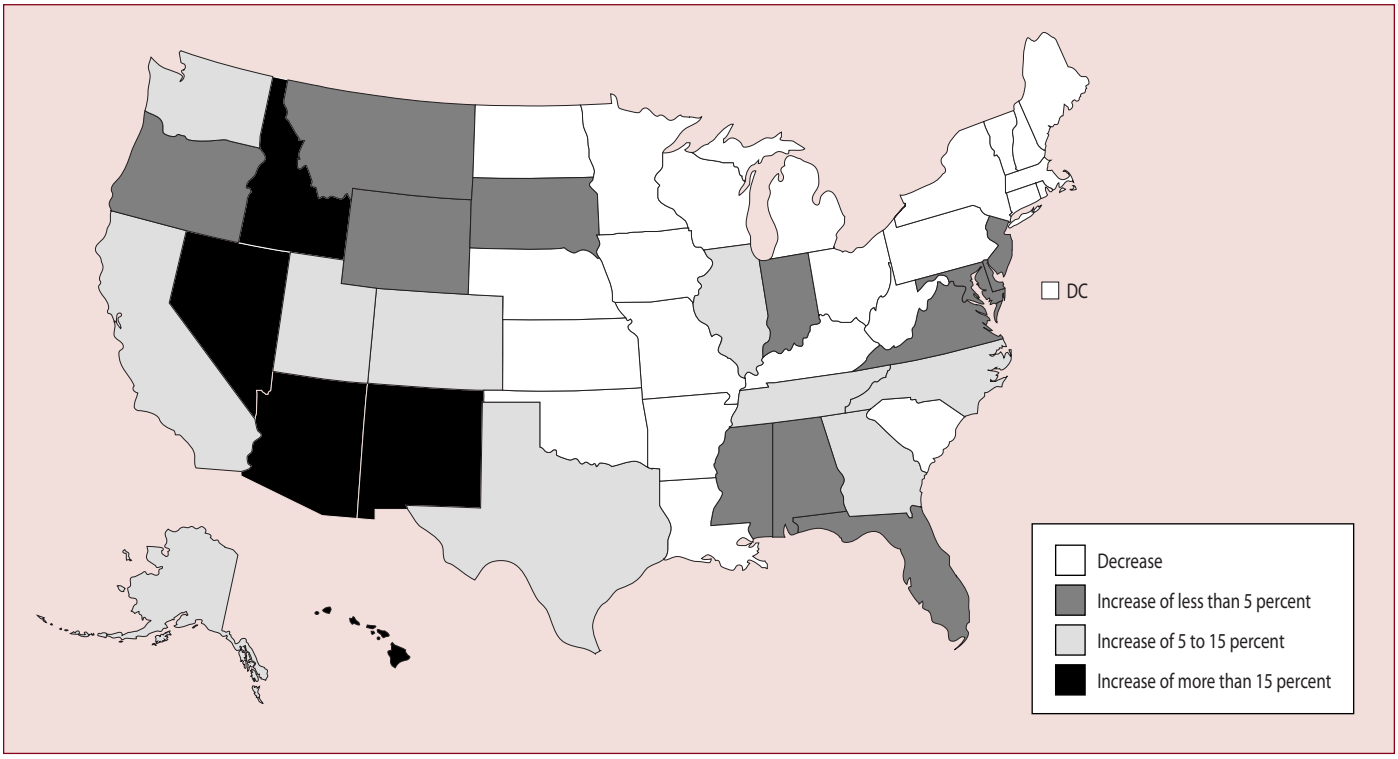
Public elementary and secondary enrollment

While public elementary and secondary school enrollment (kindergarten through grade 12) is expected to increase by 4 percent at the national level between 1997 and the year 2009, changes in enrollment will vary by region and by state (figure B).

Regionally, enrollment will increase most rapidly in the West, where total enrollment is expected to rise 11 percent. Enrollment in the South is projected to increase by 5 percent. Enrollment is expected to decrease by 2 percent in the Northeast and by 1 percent in the Midwest.

At the state level, changes in public school enrollment are projected to range from increases of 20 percent or more in some states to decreases in other states between 1997 and 2009. The largest increases are expected in Arizona (21 percent), Idaho (20 percent), and Nevada (28 percent). The largest decreases are expected in the District of Columbia (10 percent), Maine (9 percent), North Dakota (8 percent), and West Virginia (7 percent).

Figure B.—Percent change in grades K–12 enrollment in public schools, by state: Fall 1997 to fall 2009



SOURCE: Originally published as figure 63 on p. 103 of the complete report from which this article is excerpted.

Public high school graduates

The number of public high school graduates is projected to increase 23 percent nationally between 1996–97 and 2008–09, but growth in the number of graduates will vary by region. In the West, the number is expected to rise by 35 percent. In the Northeast, it is projected to grow by 20 percent. The South and Midwest are expected to have increases of 24 percent and 13 percent, respectively, over the projection period.

Increases in the number of public high school graduates are projected for most states (figure C). Between 1996–97 and 2008–09, sizable increases are expected in Arizona (76 percent), California (41 percent), Florida (45 percent), North Carolina (48 percent), and Nevada (103 percent). Decreases are projected for the District of Columbia (5 percent), Louisiana (5 percent), North Dakota (8 percent), West Virginia (7 percent), and Wyoming (15 percent).

Data sources:

NCES: Common Core of Data (CCD); Private School Universe Survey (PSS); Private School Early Estimates Survey; Higher Education General Information Survey (HEGIS); and Integrated Postsecondary Education Data System (IPEDS).

Other: The U.S. Bureau of the Census' Current Population Survey; the National Education Association's *Estimates of School Statistics* (an annual publication); and Standard and Poor's DRI (an economic forecasting service).

For technical information, see the complete report:

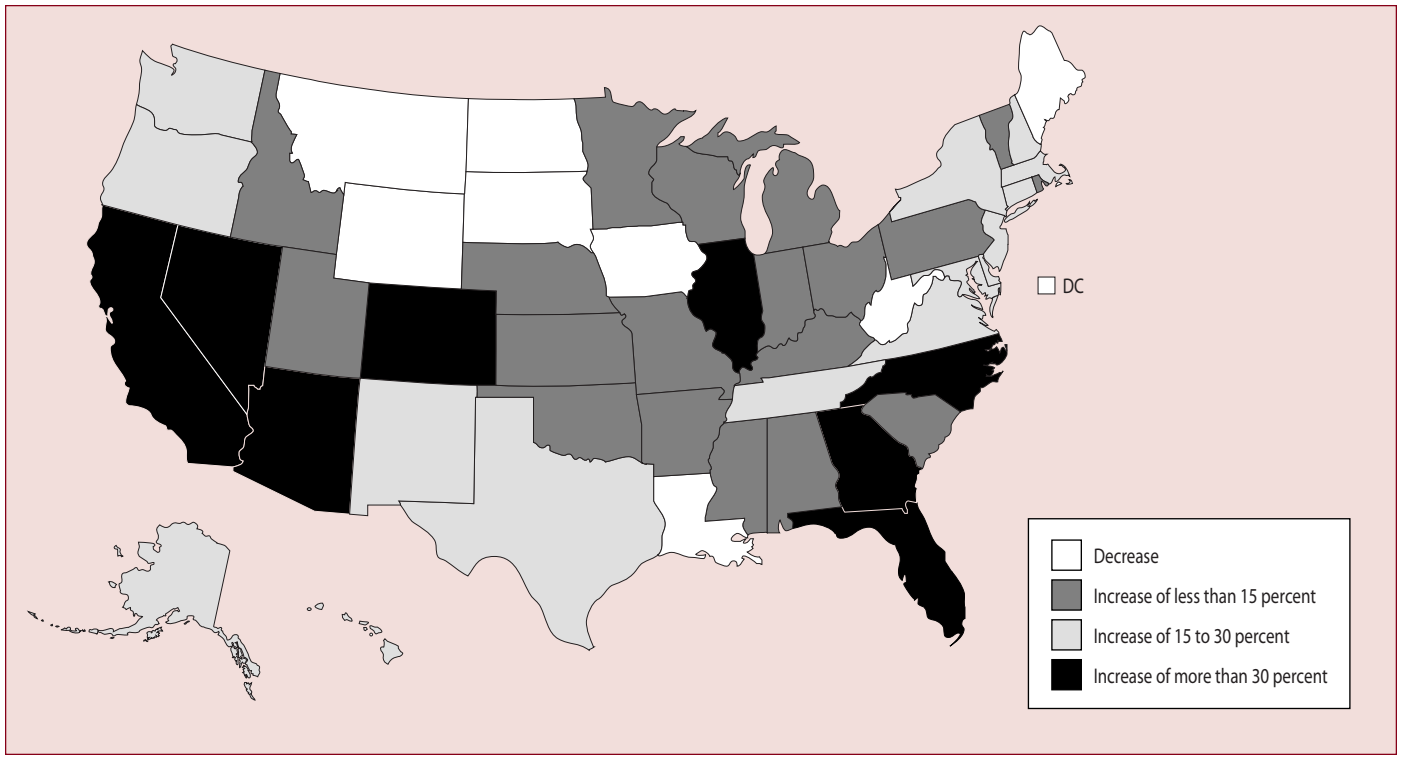
Gerald, D.E., and Hussar, W.J. (1999). *Projections of Education Statistics to 2009* (NCES 1999–038).

Author affiliations: D.E. Gerald and W.J. Hussar, NCES.

For questions about content, contact Debra E. Gerald *(debra_gerald@ed.gov)*.

To obtain the complete report (NCES 1999–038), call the toll-free ED Pubs number (877–433–7827), visit the NCES Web Site *(http://nces.ed.gov)*, or contact GPO (202–512–1800).

Figure C.—Percent change in number of public high school graduates, by state: 1996–97 to 2008–09



SOURCE: Originally published as figure 69 on p. 116 of the complete report from which this article is excerpted.

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Data Products

Data File: CCD Public Elementary/Secondary School Universe Survey: School Year 1997–1998

Part of the NCES Common Core of Data (CCD), the "Public Elementary/Secondary School Universe Survey" has two primary purposes: (1) to list all public elementary and secondary schools in the 50 states, District of Columbia, five outlying areas, and Department of Defense Dependents Overseas Schools; and (2) to provide basic information and descriptive statistics on the schools, their students, and their teachers. Data are provided annually by state education agencies (SEAs) from their administrative records. The 1997–98 data set contains 92,352 records, one for each of the listed schools.

The following information is included for each school: NCES and state school identification numbers; name

and ID number of the agency that operates the school; name, address, and phone number of the school; school type (regular, special education, vocational education, and alternative); locale code (seven categories, from urban to rural); number of students, by grade and ungraded; number of students eligible for free lunch; number of students by race/ethnicity (five categories); and number of full-time-equivalent (FTE) teachers.

The data can be downloaded from the NCES Web Site either in SAS files or in flat files that can be used with other statistical processing programs, such as SPSS. Documentation is provided in separate files.

For questions about this data product, contact John Sietsema *(john_sietsema@ed.gov).*

To obtain this data product (NCES 1999–332), visit the NCES Web Site *(http://nces.ed.gov).*

Data File: CCD Local Education Agency Universe Survey: School Year 1997–1998

The Common Core of Data (CCD) "Local Education Agency Universe Survey" is one of the five surveys that make up the CCD collection of surveys. This survey provides (1) a complete listing of all education agencies responsible for providing free public elementary/secondary instruction or education support services, and (2) basic information about these education agencies and the students for whose education they are responsible. Most of the agencies listed are school districts or other local education agencies (LEAs). The data are provided annually by state education agencies (SEAs) from their administrative records. The 1997–98 data set contains 16,555 records, one for each public elementary/secondary education agency in the 50 states, District of Columbia, five outlying areas, and Department of Defense Dependents Overseas Schools.

The data file includes the following information for each listed agency: NCES and state identification numbers; agency name, address, and phone number; agency type (regular school district, component of supervisory union, headquarters of supervisory union, regional educational service agency, state-operated agency, federally operated agency, or other); county code; metropolitan status code; number of students (ungraded and total prekindergarten through grade 12); number of students in special education programs; number of high school completers; dropout data for grades 7–12; and number of instructional and support staff, by occupational category.

The data can be downloaded from the NCES Web Site either as a SAS file or as a flat file that can be used with other statistical processing programs, such as SPSS. Documentation is provided in separate files.

For questions about this data product, *contact John Sietsema* (john_sietsema@ed.gov).

To obtain this data product (NCES 1999–333), visit the NCES Web Site *(http://nces.ed.gov).*

Data File: CCD State Nonfiscal Survey of Public Elementary/Secondary Education: School Year 1997–1998

The "State Nonfiscal Survey of Public Elementary/Secondary Education" is part of the Common Core of Data (CCD) collection of surveys. This survey provides public elementary and secondary student, staff, and graduate counts for the 50 states, District of Columbia, five outlying areas, and Department of Defense Dependents Overseas Schools. The data are provided annually by state education agencies (SEAs) from their administrative records. The 1997–98 data set contains 57 records, one for each reporting state or jurisdiction.

For each state or jurisdiction, the data file includes the following information: name, address, and phone number of the SEA; number of teachers, by level; number of other staff, by occupational category; number of students, by grade and ungraded, as well as by race/ethnicity (five racial/ethnic categories); and number of high school completers (for school year 1996–97), by type of completion (regular diploma, other diploma, high school equivalency, or other completion) and by race/ethnicity.

The data can be downloaded from the NCES Web Site either as an Excel file or as a flat file that can be used with statistical processing programs such as SPSS or SAS. Documentation is provided in separate files.

For questions about this data product, contact Frank Johnson *(frank_johnson@ed.gov).*

To obtain this data product (NCES 1999–355), visit the NCES Web Site *(http://nces.ed.gov).*

Data File: CCD National Public Education Financial Survey: School Year 1996–1997

The Common Core of Data (CCD) "National Public Education Financial Survey" provides detailed data on public elementary and secondary education finances for the 50 states, District of Columbia, and five outlying areas. Financial data are audited at the end of each fiscal year and then submitted to NCES by the state education agencies (SEAs) from their administrative records. This file provides data for fiscal year 1997 (school year 1996–97). The data set contains 56 records, one for each reporting state or jurisdiction.

For each state or jurisdiction, the data file includes revenues by source (local, intermediate, state, and federal); local revenues by type (e.g., local property taxes); current expenditures by function (instruction, support, and noninstruction) and by object (e.g., teacher salaries or food service supplies); capital expenditures (e.g., school construction and instructional equipment); average number of students in daily attendance; and total number of students enrolled.

The data can be downloaded from the NCES Web Site either as an Excel file or as a flat file that can be used with statistical processing programs such as SPSS or SAS. Documentation is provided in separate files.

For questions about this data product, contact Frank Johnson *(frank_johnson@ed.gov).*

To obtain this data product (NCES 1999–358), visit the NCES Web Site *(http://nces.ed.gov).*

Data File: Integrated Postsecondary Education Data System: 1996 CD-ROM

The Integrated Postsecondary Education Data System (IPEDS) is a comprehensive system of surveys designed to collect data from all institutions whose primary purpose is to provide postsecondary education. The IPEDS universe is made up of approximately 10,000 institutions, including baccalaureate or higher degree-granting institutions, 2-year-award institutions, and less-than-2-year institutions.

This CD-ROM contains data on the universe of IPEDS institutions for survey cycle 1996. Included are data for academic year 1995–96 from the IPEDS "Completions Survey," "Finance Survey," and "Salaries, Tenure, and Fringe Benefits of Full-Time Instructional Faculty Survey," as well as data for academic year 1996–97 from the "Fall Enrollment Survey," "Institutional Characteristics Survey," and "Fall Staff Survey."

For questions about content, contact Samuel Barbett *(samuel_barbett@ed.gov).*

To obtain this CD-ROM (NCES 1999–163), call the toll-free ED Pubs number (877–433–7827) or contact GPO (202–512–1800).

Other Publications

NAEP 1998 Civics Report Card Highlights

Shari L. Santapau, Anthony D. Lutkus, and Andrew R. Weiss

The National Assessment of Educational Progress (NAEP) is administered by NCES with oversight by the National Assessment Governing Board (NAGB). In 1998, NAEP administered a civics assessment to a national sample representative of all students at grades 4, 8, and 12. The results of the assessment provide information about students' civic knowledge, skills, and interests.

This 12-page publication presents highlights from the 1998 NAEP Civics Assessment, describing its content and major findings, as well as students' experiences at home and in school that are associated with achievement in the study of civics.

Author affiliations: S.L. Santapau, A.D. Lutkus, and A.R. Weiss, Educational Testing Service.

For questions about this publication, contact Arnold Goldstein *(arnold_goldstein@ed.gov).*

To obtain this publication (NCES 2000–460), call the toll-free ED Pubs number (877–433–7827) or visit the NCES Web Site *(http://nces.ed.gov).*

NAEP 1998 Writing Report Card Highlights

Shari L. Santapau, Elissa A. Greenwald, and Hilary R. Persky

The National Assessment of Educational Progress (NAEP) is administered by NCES with oversight by the National Assessment Governing Board (NAGB). In 1998, NAEP administered a writing assessment to a national sample representative of all students at grades 4, 8, and 12 and to state samples representative of all students at grade 8 in the states and other jurisdictions participating in the state-by-state assessment. The results of the assessment provide a snapshot of American students' achievement in writing.

This 16-page publication presents highlights from the 1998 NAEP Writing Assessment, describing its content, major findings at the national and state levels, and students' experiences at home and in school that appear to be associated with achievement in writing.

Author affiliations: S.L. Santapau, E.A. Greenwald, and H.R. Persky, Educational Testing Service.

For questions about this publication, contact Arnold Goldstein *(arnold_goldstein@ed.gov).*

To obtain this publication (NCES 1999–464), call the toll-free ED Pubs number (877–433–7827) or visit the NCES Web Site *(http://nces.ed.gov).*

NAEP 1998 Writing State Reports

Laura J. Jerry and Nada L. Ballator

The National Assessment of Educational Progress (NAEP) assessments are administered to representative samples of students at the national level as well as at the state level for those states that participate. The NAEP writing assessment was administered at the state level for the first time in 1998. The state-level assessment was administered at grade 8 in both public and nonpublic schools.

The customized report for each participating state or jurisdiction presents results for that state, along with national and regional results for comparison. (*The NAEP 1998 Writing Report Card for the Nation and States* [NCES 1999–462] is the companion to the state reports; it offers data for all states and additional national data.)

Each state report has two sections. The first section provides basic information on NAEP, followed by overall results for public schools in the state, the region, and the nation, as well as comparisons of the state's performance with the performance of other participating states and jurisdictions. The second section reports findings for the state's grade 8 public school population broken down by major demographic categories, as well as results by school type. This section also includes comparisons with regional and national results.

Author affiliations: L.J. Jerry and N.L. Ballator, Educational Testing Service.

For questions about the state reports, contact Arnold Goldstein *(arnold_goldstein@ed.gov).*

To obtain a state report (NCES 1999–463), visit the NCES Web Site *(http://nces.ed.gov).*

Pocket Projections: Projections of Education Statistics to 2009

William J. Hussar

Each year, NCES publishes this pocket summary of the *Projections of Education Statistics*. The pocket summary provides the reader with key information extracted from the full report. Included are data on enrollment at all education levels, numbers of high school graduates, earned degrees conferred, classroom teachers, and expenditures for public elementary and secondary schools and institutions of higher education. This year's edition of *Pocket Projections* includes 1986–87 data as well as estimates for 1997–98 and projections for 2008–09.

For questions about this pocket summary, contact William J. Hussar *(william_hussar@ed.gov).*

To obtain this pocket summary (NCES 1999–021), call the toll-free ED Pubs number (877–433–7827) or visit the NCES Web Site *(http://nces.ed.gov).*

Mini-Digest of Education Statistics: 1998

Charlene Hoffman

The *Mini-Digest of Education Statistics: 1998* (the sixth edition) is a pocket-sized compilation of statistical information covering American education from kindergarten through graduate school. It is a handy reference source for materials found in much greater detail in the *Digest of Education Statistics, The Condition of Education,* and *Youth Indicators*.

The *Mini-Digest* includes sections on elementary/secondary and postsecondary enrollment, teachers, educational outcomes, and finance. Each section contains short, easy-to-understand tables and figures along with text summaries. Current and past-year data are included, as well as projections for enrollment through 2008.

For questions about the Mini-Digest, contact Charlene Hoffman *(charlene_hoffman@ed.gov).*

To obtain the Mini-Digest (NCES 1999–039), call the toll-free ED Pubs number (877–433–7827), visit the NCES Web Site *(http://nces.ed.gov),* or contact GPO (202–512–1800).

Directory of Public Elementary and Secondary Education Agencies: 1996–97

Lena McDowell and John Sietsema

This directory provides a complete listing of agencies responsible for providing free public elementary/secondary instruction or education support services in the 50 states, District of Columbia, five outlying areas, and Department of Defense Dependents Overseas Schools. The agencies are organized by state or jurisdiction and, within each state or jurisdiction, by agency type. Agencies are divided into six types: regular school districts, supervisory union administrative centers, regional educational service agencies (RESAs), state-operated agencies, federally operated agencies, and other agencies.

The entry for each listed agency includes the following information: agency name, address, and phone number; name of county; metropolitan status code; grade span; student membership (number of students enrolled on the school day closest to October 1, 1996); number of regular high school graduates (1995–96 school year); number of students with Individualized Education Programs (IEPs); number of teachers; and number of schools. This information comes primarily from the 1996–97 "Local Education Agency Universe Survey," part of the NCES Common Core of Data (CCD).

For questions about this directory, contact Lena McDowell *(lena_mcdowell@ed.gov).*

To obtain this directory (NCES 1999–313), call the toll-free ED Pubs number (877–433–7827), visit the NCES Web Site *(http://nces.ed.gov),* or contact GPO (202–512–1800).

Funding Opportunities

The AERA Grants Program

Jointly funded by the National Science Foundation (NSF), NCES, and the Office of Educational Research and Improvement (OERI), this training and research program is administered by the American Educational Research Association (AERA). The program has four major elements: a research grants program, a dissertation grants program, a fellows program, and a training institute. The program is intended to enhance the capability of the U.S. research community to use large-scale data sets, specifically those of the NSF and NCES, to conduct studies that are relevant to educational policy and practice, and to strengthen communications between the educational research community and government staff.

Applications for this program may be submitted at any time. The application review board meets three times per year.

For more information, contact Edith McArthur *(edith_mcarthur@ed.gov)* or visit the AERA Grants Program Web Site *(http://aera.ucsb.edu).*

The NAEP Secondary Analysis Grant Program

The NAEP Secondary Analysis Grant Program was developed to encourage educational researchers to conduct secondary analysis studies using data from the National Assessment of Educational Progress (NAEP) and the NAEP High School Transcript Studies. This program is open to all public or private organizations and consortia of organizations. The program is typically announced annually, in the late fall, in the *Federal Register*. Grants awarded under this program run from 12 to 18 months and awards range from $15,000 to $100,000.

For more information, contact Alex Sedlacek *(alex_sedlacek@ed.gov).*

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